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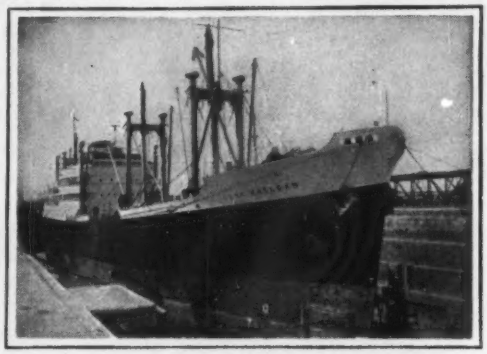

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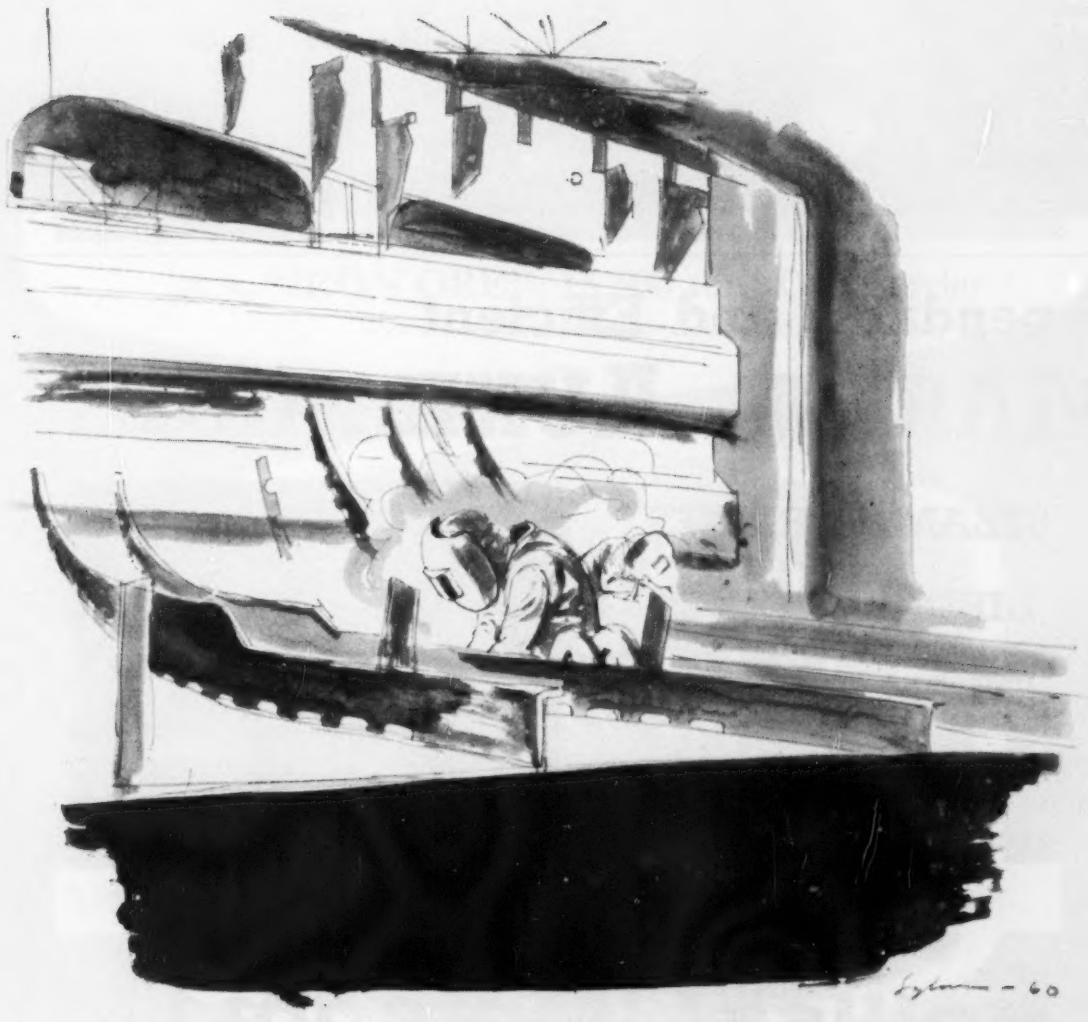

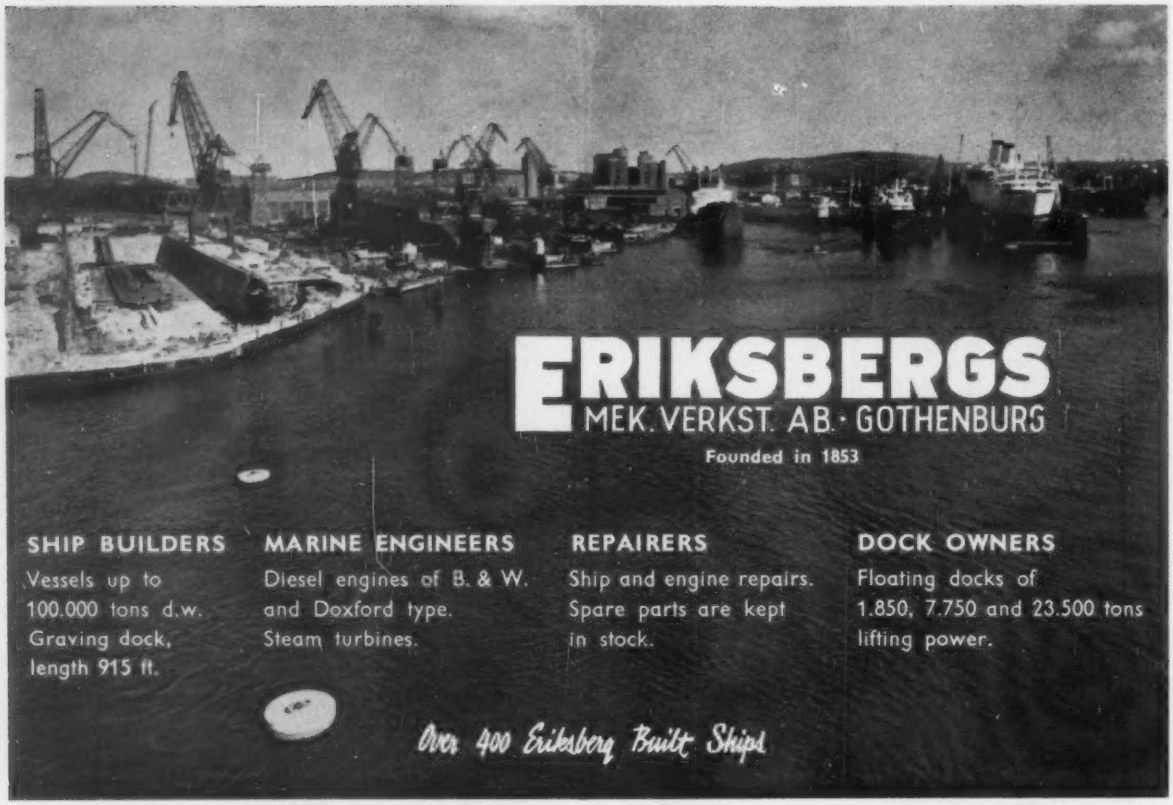
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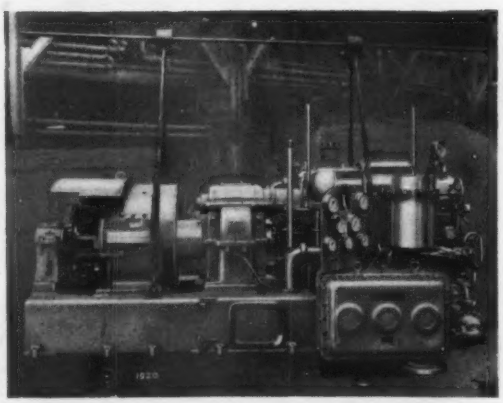

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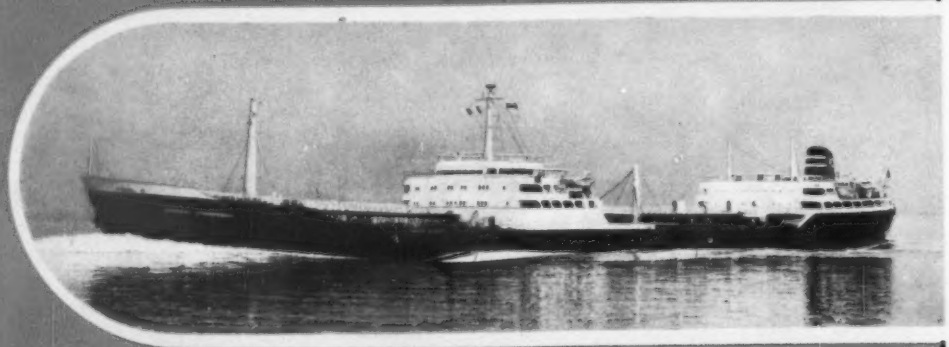

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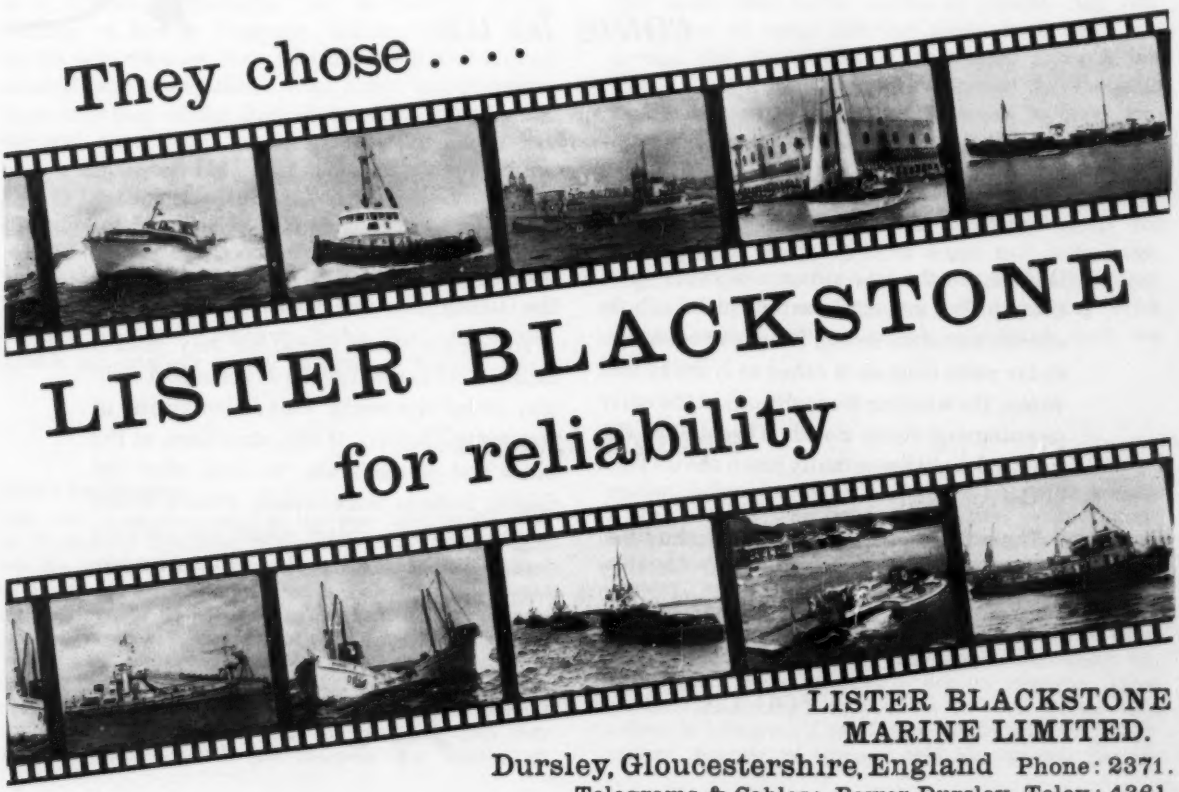

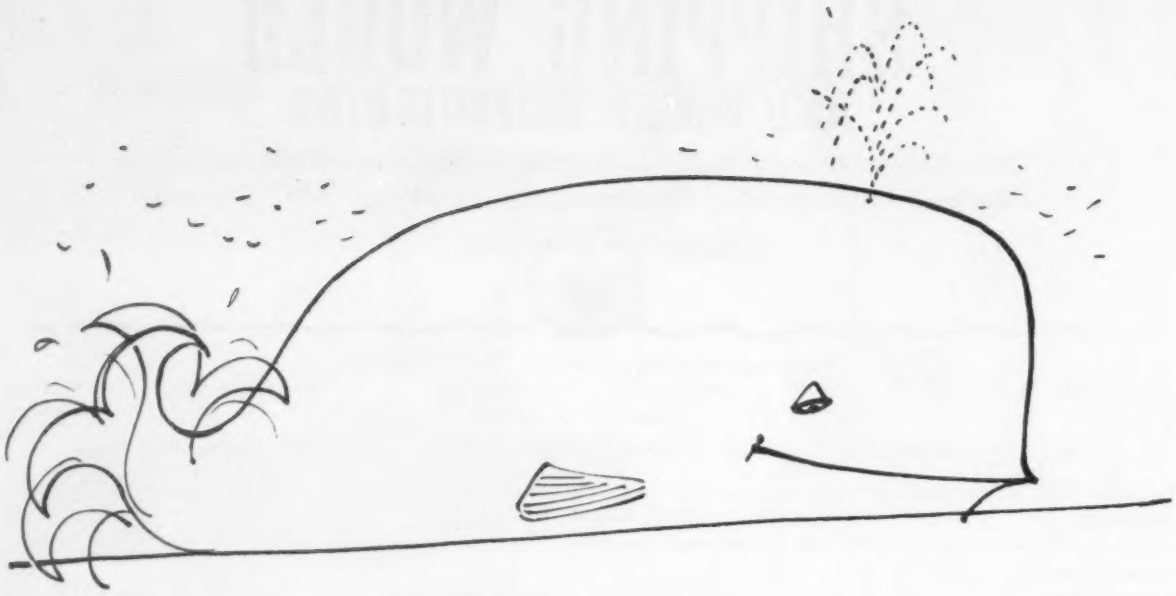

Wise people in whaling come to us

One day in the late autumn of every year, the pop of an invisible starter's pistol echoes silently round the world. Then from countries as far away from each other as Norway and Japan, the whaling fleets slip out in the early morning and steam South. They follow the longitudes, and eventually reach the ice floes of the Antarctic.

These fleets stay out for months at a time, and are quite self-contained. To survive, they need vast quantities of bunker and diesel fuel to propel, heat, warm, light, and to work the factory ships and catchers.

To bunker these fleets, we may send a tanker load to rendezvous at some port halfway round the world. This is bunkering in the grand manner. At the same time, at the other end of the scale, we look after the fishing fleets in more homely waters. In the season, drifters cluster round our fuelling depots like cheerful urchins round an ice-cream kiosk.

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A DECADE OF SERVICE

LAST WEEK'S annual dinner of the Royal Institution of Naval Architects was the last at which Lord Runciman will preside, as he is giving up the presidency after ten years of service to the Institution. It will be difficult to imagine the affairs of the Institution being conducted without Lord Runciman's charm, fluency of speech and nice turn of phrase in the chair. The R.I.N.A. believes in keeping its presidents for a number of years, but none in the present century can equal the ten years' presidency now ending. Indeed it is necessary to go back to the first two presidents, Lord Hampton and Lord Ravensworth with 20 and 13 years respectively as president, to find a rival.

The R.I.N.A. traditionally goes outside the shipbuilding industry for its presidents, and it traditionally goes to the peerage. It has been fortunate in that in Lord Runciman's successor, Viscount Simon, it has been able to maintain its traditions and also to obtain a president whose suitability for the task it would be hard to equal. Not only has he the personal qualities required, and the broad background of shipping: he is at present completing a year as president of the Institute of Marine Engineers, and so when he takes up his new office on May 1 he will bring with him an unusual fund of experience. Lord Simon has, of course, been chairman of the Port of London Authority for the past three years, but for most of his life he has been a shipowner. He was a managing director of the P & O Line for eleven years, and was president of the Chamber of Shipping in 1957-58.

Lord Simon's experience of shipping and ports from both sides of the fence makes him particularly well qualified to initiate some action on a suggestion put forward by Lord Runciman in his final after-dinner speech as president of the Institution. Talking about the importance of research, he said that shipbuilding production techniques rather than ship design were probably the most fruitful field. However, one matter on which he thought that research should be concentrated was that of cargo handling. He quoted from a paper by Lord Sanderson (then Mr Basil Sanderson) given to the Institution in 1952:

> "Cargo still continues to be brought alongside a hatch, is then lifted 30 or more feet into the air, is swung out a like distance, and all for the benefit of being subsequently lowered into position to a depth which, at the beginning of loading operations at any rate, approximates the lift. A less inspiring or more wasteful exercise in ballistics it would be difficult to devise."

Lord Runciman suggested the possibility of using side loading doors, or possibly of abolishing masts and funnels and loading and discharging under cover. He had recently carried out a calculation which showed that for the North Atlantic run, the cost of loading and discharging exceeded all remaining costs of operating the ship put together, this including even depreciation. For cargo liner design at least, this is the field that needs most to be tackled at present. Any considerations of cargo handling must clearly take into account the possibilities of containers. Later in his speech Lord Runciman gave his opinion that the main reason why air transport was beginning to break into the cargo market was not so much the speed offered as the limited handling, simplified packaging, and reduced damage and pilferage that were offered. In fighting this competition, the container seems the obvious focus round which to design new cargo handling techniques, as it removes all these disadvantages. It also offers the rapid loading and discharging which should make Lord Runciman's calculation work out differently.

Current Events

Ships and Strikes

THE MOST depressing event of the year 1960, in the view of Sir Donald Anderson, chairman of the P & O group, was the unofficial tally clerks' strike in London. Speaking to shareholders at the annual general meeting, Sir Donald said this strike was depressing because it showed how easily a few men, combining for their own reasons—which were purely selfish—can "tie up the largest port in the country completely for three weeks, put many thousands of workers out of employment, lose millions of pounds for the industry off which they live, cost the port they work in more goodwill and business than anyone yet realises, suffer no penalty, and remain free to do it again if they choose." The London tally clerks' strike "attracted public attention and a scathing report." Not so the experiences of the Federal S.N. Company's *Suffolk* in January, which attracted neither, but which was of an only too familiar type. Repairs were due to be carried out during loading. The ship was loading first in Newport, where boiler repairs were begun, and where the boilermakers were operating a ban on overtime. There was no trouble in Newport, but as soon as the ship arrived in Liverpool, a subsequent loading port, the boilermakers' delegate in Newport told his opposite number

in Liverpool that there had been some "infringement of union rules" by repairers in Newport. So after one day's work in Liverpool, which effectively immobilised the ship, the men walked off and declared the ship black. They returned again; they walked off again; and finally, as a result of prolonged discussion between the various parties in Newport and Liverpool, they returned again and finished the job—14 days late. One of the few points that everyone agreed was that the shipowners were not at fault in any way. But they and the equally blameless shippers were the only people who suffered. Sir Donald continued: "Employers are quite impotent to prevent this sort of thing; public opinion so far has been impotent; and if trades unions are impotent too, what is left except action by Government? I do not believe that this is the right answer, because I believe that industries should govern their own labour relations themselves, but public opinion has become sceptical of the ability of the trades unions to outlaw this form of behaviour, and one can hardly be surprised."

Shortage of Berths

A DIFFERENT aspect of the Port of London that now concerns liner companies is the shortage of berths. The business of the port has grown over the years, but its capacity to handle the business has not matched the growth. The number of berths required depends to some extent on the rate of work achieved. If the rate of work were to increase, the same number of berths could handle more cargo. But, continued Sir Donald, there was no reason to expect a rate of work so much higher as to relieve berth congestion, and more berths were now urgently needed. Since the war vast improvements and great additions had been made to the capacity of the Continental ports, competitive with London for certain trades. At Rotterdam some 38 new berths have been created and in addition, a new port, Europort, has been built. At Antwerp there has been a great expansion of berths, with more to come. In London, on the other hand, the enormous amount of work done by the P.L.A. since the end of the war and done, too often, in the face of shortages both financial and material, had been confined almost entirely to the restitution of war damage and the remodelling of ancient berths. There had been no expansion. Indeed no new dock system had been built for 40 years. It was difficult, Sir Donald added, to escape the conclusion that London was risking the loss of its share of the greatly increased trade of the world. Suitable land was available at Tilbury and if the provision of finance was an obstacle, or if the P.L.A. should be unable to see a commercial return on the money to be invested, it would surely not be unreasonable to suggest that the Government, which put up whatever money was needed for airports, should, if necessary, do the same for seaports, which carry the vast preponderance of the trade of the country and which, if cramped, must limit this trade.

Seamen's Claim

TODAY the National Maritime Board is to meet to consider the latest claims put forward by the National Union of Seamen. There are seven points to which the general secretary, Mr Jim Scott, accords priority, as follows: Overtime for weekend hours worked at sea with retention of compensatory leave; increase in basic wages; increase in the special bonus paid to nominated ships trading on the North American coast; the resolving of the night watchman's hours; substantial increase in the allowance paid to holders of the Able Seamen's certificate; provision of messmen in all foreign-going vessels; and payment for "captive time"; i.e. where men are detailed to remain on board without specific duties having been assigned to them. In Mr Scott's opinion, the improvements of conditions, rather than wages, should be the major objective, on the grounds that wages could fluctuate, while conditions, once established, were static. In view of the fact that the shipping industry is still struggling to absorb the vastly increased operating costs resulting from last autumn's substantial increase in the basic wages of seamen, it must certainly be doubtful if the N.U.S. can persuade the National Maritime Board that the present time is an opportune one to press for a further increase. The improvement of various marginal benefits and working conditions may well be a much more profitable area to explore for the time being.

Concern at Officers' Pay

MORE than half the 61 resolutions submitted by members of the Merchant Navy & Airline Officers' Association for their general meeting at Cardiff on May 4 and 5 are concerned with pay and leave. Eighteen resolutions call for increases in pay in one way or another, ranging from a simple demand for "a further increase in pay to bring members more into line with professional men ashore" to claims for increases in the compensation payments which are made under the various agreements covering the extra or special duties which ships' officers frequently have to perform. Some 14 resolutions dealing with leave include calls for more leave at shorter and more frequent intervals. Among the resolutions are demands for air conditioning (by legislative action if necessary) in ships trading to the Persian Gulf or similar areas, extra payment for officers holding certificates of competency in home trade ships similar to foreign-going ships, and a system of grading for electrical engineer officers similar to that of engineer officers. Other resolutions ask for a trained male nurse in ships which have no doctor, and that a chief steward, or person in charge of catering, should have a certificate to show that he is qualified as a dietician, some similar qualification in the branch of domestic science, or a recognised cook's certificate.

Suez Statistics

FIGURES are now available of Suez Canal traffic during 1960. Once again they top all previous records. Total net tonnage shows an increase over 1959, itself a record, of 13.5 per cent, while the volume of cargo carried in both directions, oils included, increased by 14 per cent. The principal figures for the last three years are as follows:

	1958	*1959*	*1960*
No of transits ...	17,842	17,731	18,734
Total nrt	154,479,000	163,386,000	185,322,000
Total cargo tons ...	139,373,000	148,244,000	168,903,000
No of tankers ...	9,588	9,212	9,755
Tanker nrt ...	107,816,000	114,340,000	132,383,000

Transit revenue rose to over £E50 mn. It is an impressive fact that compared with 1955, the last complete year before the Suez crisis, the net tonnage of ships passing through the canal in both directions has gone up by no less than 60 per cent. That this increased traffic has been handled without delay or congestion concurrently with a massive programme of physical improvements, including dredging, widening and new walling, is evidence of the efficiency of the present administration, all the more striking because so contrary to general expectation. A detail of the 1960 statistics is of interest. Of the total tanker tonnage shown above, 1,235,000 nrt (149 vessels) consisted of tankers "laden with goods other than petroleum." This grain trade invasion was carried on in both directions, though the major portion, nearly 800,000 nrt, was southbound. Last month permissible draught in the canal went up to 36ft 6in, and by the end of this month

transit at 37ft may be allowed. It has been stated that in the five-year period 1959-63 £E62.8 mn will be spent on improvement projects.

New Fireboat for London

On Thursday the handing-over and naming ceremony of the new fireboat *Firebrace* took place on the Thames at the Festival Pier. The *Firebrace* was built by Saro (Anglesey) Ltd at a cost of over £40,000. She has an all-welded steel hull divided into five watertight compartments. Her length overall is 69ft and beam 13ft, draught 3ft 8in and gross tonnage 45.18, with a maximum speed of 11½ knots. Twin propellers and twin rudders have been fitted to provide good manoeuvrability. Two diesel engines each developing 228 bhp are fitted, with two identical engines to drive two two-stage fire pumps each capable of 2,000 gallons per minute output at 100 lb/sq in. It is interesting to recall that the first fireboats in London were owned by the insurance companies. In 1833 the London Fire Engine Establishment took over, from the insurance companies, two floating fire engines. Other similar craft, manually operated, were added later. In 1852 the pumps on the two largest of the London floating engines were converted to steam power, and at the same time it was decided to propel them by steam power instead of by oars. For this purpose water was pumped aft, to drive the boat on the reaction or jet principle. This arrangement proved unsatisfactory, however, and oars were again resorted to. The early fire vessels, however, proved to be too large and were replaced by tug boats which drew only a few feet of water and towed pumping engines on rafts, known as "fire floats." In 1899, when the London Fire Brigade came into being, it took over seven tugs and eight fire engine rafts. The first modern type of fireboat, the *Alpha II*, was commissioned in 1900. Of the existing fleet of London fireboats, the *Massey Shaw* was placed in commission in 1935. She has a distinguished war record. In 1940, manned by naval personnel assisted by a voluntary crew of regular and auxiliary firemen, she was one of the fleet of "little boats" which helped in the evacuation from Dunkirk. In all, she made three crossings and brought back 106 soldiers, in addition to ferrying about 500 from the beaches to larger ships. On the final return journey she rescued 40 members of the crew of a French ship which struck a mine. The *James Braidwood* is a smaller, faster fireboat, and was commissioned in 1939.

Hitachi Expansion

This week the Hitachi Shipbuilding & Engineering Co Ltd, one of Japan's leading shipyards, with nine large building berths and 12 dry docks among its five yards, as well as large industrial capacity in other directions, is celebrating its 80th anniversary. And at the moment of looking back at a somewhat chequered history, at a time also when the shipbuilding industry of Japan is suffering, like those of other countries, from an over-abundance of capacity, the firm has announced a further substantial expansion programme. An entirely new shipyard is to be built on reclaimed land at Osaka. It will be capable of turning out ships of up to 100,000 dwt, of repairing vessels of similar size and also of producing industrial plant and machinery, which has been an important aspect of the firm's work since the 1920's. It will occupy a site of 660,000 sq metres and will be completed in 1969. The Hitachi company was originally the Osaka Iron Works. The name was changed in 1943. It was founded in 1881 by an Englishman, Edward Hazlett Hunter. Knowing the importance of shipbuilding to his own island country, could he have had an inkling of the strides the Japanese industry was to make within the span of a lifetime? Not, one may be sure, to the extent of visualising a time when the output of Japanese yards would surpass that of the whole of the United Kingdom. E. H. Hunter was succeeded by his son, Ryutaro Hunter, in 1895. Under his leadership the Sakurajima and Innoshima yards were established, and by 1911 four more shipyards had been taken under the Osaka wing, including a branch yard in Keelung, Formosa. The concern became a limited company in 1914. Extension into other fields after the first world war, particularly bridge building and the manufacture of rolling stock, followed the Japanese pattern for large industrial enterprises and was instrumental in enabling the organisation to overcome the worst effects of the inter-war years of slump. Recovery after the war was rapid and by 1957, with an output of 26 ships totalling 386,800 dwt, the Hitachi company achieved second place in volume of production among the world's shipyards. With yet a new yard in the offing, capable of constructing the largest merchant ships, it is evidently looking towards still greater achievements.

Passenger Liner "Anselm"

To the Editor,
The Shipping World.

Sir,—On page 262 of your issue of March 15 we observe that you refer to the m.v. *Anselm* which we have recently purchased and which will make her maiden voyage from Liverpool to the River Amazon on June 16. You state that the *Anselm* will have accommodation for 128 first class and 200 tourist class passengers, but we would advise you that when operating our service from Liverpool to Portugal, Madeira, Barbados, Trinidad and the River Amazon, the *Anselm* will have accommodation for 128 first class and 100 tourist class passengers.

All rooms are outside ones and all first class cabins have private showers or baths and toilets. First and tourist class dining saloons in the *Anselm* will be air-conditioned and the ship has a built-in swimming pool.

Yours, etc,
D. R. Wynn-Williams,
Passenger Manager,
The Booth Steamship Co Ltd.

Cunard Building,
Liverpool 3.
28 March 1961

The 73,148-dwt French-flag Shell tanker "Sitala" is described in this issue. This view was taken looking forward from the bridge

On the "Baltic"

By BALTRADER

A FAMILIAR PATTERN

WITH the Baltic Exchange closed for several days last weekend, for the Easter holiday, it was inevitable that there should be some slowing down on the markets and, apart from those owners with prompt ships on their hands, there was little to be gained by rushing in to fix. In the meantime the familiar pattern of a firm Eastern winter market followed by a weak Far East summer market is developing fast, with the result that rates from this side to such countries as China and Japan continue to rise. Star performer in this direction has been the U.S. Gulf/U.S. N.H. to Japan scrap rate, which at $120,000 or more for a Liberty type vessel is over $10,000 up on January and February levels, but it is doubtful if the owners concerned are overjoyed at this improvement, for they know that they will have a hard struggle to make ends meet on whatever return employment they can secure. Apart from scrap, grain from the U.S. Gulf to Japan and coal from Hampton Roads to the same destination has recently been fixed at higher rates to compensate owners for the general lack of follow-on prospects.

"If only grain inquiry in the trans-Atlantic trades would expand, the markets would really become lively"; this has been the owners' cry from the heart for months past, but nothing ever seems to happen. Now with the St Lawrence opening again for another season and the Great Lakes soon accessible once more there is a chance of renewed activity but, as in previous years, charterers have been quietly fixing ships for "first open water" loading for many weeks past, and a proportion of their requirements is therefore already covered. Tankers, of course, are finding the oil trades difficult and consequently they seem to carry more and more trans-Atlantic grain to the detriment of all dry cargo owners.

Russian and Chinese Chartering

Last week there were signs of flagging interest on the part of Russian charterers, who had been actively fixing good class tonnage with delivery in either Cuba or European water or Liberty type oilburners with delivery Cuba, but it is possible that their interest may revive as the markets get back into their stride after the holidays. Whatever happens, however, the 5/6/7-months time charters secured in recent weeks ensure for the owners concerned a useful cover over the summer months. Meanwhile voyage inquiry from Cuba to the Black Sea is certain to be a continuous feature of the markets in the months ahead, for Russia's annual purchases of Cuban sugar are very substantial.

As already mentioned, the marked improvement in rates out to the Far East is merely a reflection of the uncertain and difficult return prospects. Nevertheless, to some extent owners have brought the trouble upon their own heads, for there have been a number of fixtures in recent weeks both from Australia and from the North Pacific for early and late positions which have been unnecessarily poor. It is virtually impossible to hold out for long against the downward trend of a market, but it is possible for one or two owners to discount rates more than conditions warrant, with disastrous effects for all concerned. One of the weakening factors in the Far East lately has been the diminishing interest of Chinese charterers either in tonnage for time charter or for grain voyages from Australia and British Columbia, but when one considers the volume of business done by these charterers in recent weeks it is not surprising that their activities should now be restricted.

BOOK REVIEWS

The Mar Year Book 1960 Compiled by C. P. Montheil Lacroix and J. J. Anderson. (Editorial Mar, 25 de Mayo 516, Buenos Aires. Available from Chadwick Weir & Co Ltd, 19 Bury Street, London EC3. Price £1 10s.)

For most people concerned with South American trade in general, and the River Plate in particular, it will be quite enough to know that the new edition of this annual is available. Over the last 28 years it has earned a high reputation as an authoritative and astonishingly complete source of information on ports, shipping and trade in the Argentine and Uruguay. If there are others not familiar with the volume it may well be wondered how they have managed to conduct their businesses without the advantage of being able to refer to its pages. There is no other world trading area so well served by reference material assembled within two covers. On first introduction there may be some difficulty in finding one's way through the various sections of the book, for the layout and arrangement are not as clear as could be. But the little extra perseverance required will give access to practically every item of commercial and legal information that may at any time be required. About half the book is devoted to port particulars and charges and a considerable number of plans and aerial views with explanatory texts are included.

Principal Ports in Japan 1960. (Japan Port and Harbour Association and Central Secretariat of the International Association of Ports and Harbours, Rm 715-A, N.Y.K. Building, 20 Marunouchi, 2 Chiyoda-ku, Tokyo.)

This is a new edition of an English-language publication which first appeared in 1952. Since then much has been done in the way of rehabilitation and improvement at the major ports, particulars since the formulation in 1957 of the "Five-Year Harbour Perfection Plan." More than any other country, the United Kingdom not excepted, Japan lives by the sea, for it provides the main "internal" as well as external lines of communication. No less than half its population is concentrated in port communities. Japanese seaborne trade has risen from about 215 mn tons in 1952 to over 367 mn tons in 1959. A higher proportion than in the case of most countries is represented by domestic trade, but the growth of foreign trade to a figure of about 65 mn tons has followed a similar pattern. Altogether there are something like 2,000 ports in Japan, with a further 2,000 fishing ports. Of these, 73 are given the status of major ports, of which 11 are "specially designated major ports." The new publication covers in detail only 22 ports, but the detail it includes about these is considerable. Besides listing facilities, services and general navigational features, the entries included a plan of each port and in most cases one or more photographs as well. An appendix covers port and harbour law. Port charges are not dealt with.

Year Book and Guide to Southern Africa; Year Book and Guide to East Africa. Edited by A. Gordon-Brown. (Robert Hale Ltd, London, for the Union-Castle Mail Steamship Co Ltd. Prices 10s 6d and 8s 6d respectively, plus postage.)

The primary purpose of these well-known guide books is to serve the needs of visitors to a vast area of the African Continent; for them it has long been a "must." But so extensive is the information, and so well is it laid out and indexed, that the usefulness of the books extends to all who have business or other dealings with the areas, as well as those who are interested in the basic facts of a part of the world which has been and will continue to be at the forefront of world politics. In a message Sir Nicholas Cayzer makes an interesting, though somewhat tentative, claim that the books are now the oldest annually-produced travel guides in the English language; they go back to 1893. But it has always been a fundamental feature that they move with the times; each edition, and the present is no exception, incorporates much more than is suggested by the phrase "bringing up to date." The guide to Southern Africa (for it includes the Federation of Rhodesia and Nyasaland, as well as southern Angola) has over 750 pages of text with a number of illustrations, 29 pages of plans and diagrams and a 48-page coloured atlas, truly astonishing value for the money.

More Ships for Russia

DEVELOPMENT OF THE SOVIET MERCHANT FLEET

By a Special Correspondent

THE Russian Seven-Year Plan for 1959-65 envisages a doubling of the tonnage of the merchant fleet, with dry-cargo tonnage to increase 2.2 times and tanker tonnage 1.8 times, and it is now possible to see what progress has been made towards this objective after the first two years of the Plan. The basic material for this survey comes from the 1960-61 Register Book of Lloyd's Register of Shipping, supplemented by information from other non-Russian sources and in Soviet publications on various other ships known to exist and identifiable by type and size. Yet more vessels are known to be operating, but they are omitted from this study for lack of precise data. These relate largely to small craft (tugs, barges, dredgers) and also most icebreakers, whose activities are confined to Russian coastal waters; their omission and that of Caspian ships should not seriously distort the picture of the Russian fleet as a participant in open-seas trade. Moreover, the numerous trawlers, fish-factory ships and the like which are recorded by Lloyd's Register of Shipping are also ignored.

TABLE I—Development of Soviet Merchant Fleet since 1950
('000 grt)

Date	Dry-cargo and Passenger		Tankers		Auxiliaries incl. Ice-breakers		Total	
	No	Tons	No	Tons	No	Tons	No	Tons
End 1950 Fleet Total ...	289	1,157	20	76	52	46	385	1,279
1951 Additions ...	20	44	2	2	3	2	25	48
1952 ,, ...	20	42	6	15	9	6	35	63
1953 ,, ...	32	72	13	51	13	7	58	130
1954 ,, ...	36	113	13	85	11	6	60	204
1955 ,, ...	26	75	15	90	10	11	51	176
1956 ,, ...	51	167	14	95	12	9	77	271
1957 ,, ...	50	194	13	102	16	13	79	309
1958 ,, ...	45	155	10	46	25	15	80	216
End 1958 Fleet Total ...	569	2,019	106	562	151	115	826	2,696
1959 Additions ...	46	198	12	89	17	42	75	329
1960 ,, ...	56	294	14	161	3	11	73	466
End 1960 Fleet Total* ...	690	2,576	133	820	171	168	994	3,564

* Includes under Dry-Cargo, Tankers and Total 19 dry-cargo ships (65,000 tons) and 1 tanker (2,000 tons) of recent construction but doubtful year.

Table I summarises the growth of the fleet in the last ten years, a period which covers virtually the whole of its postwar growth, as few vessels were acquired between 1945 and 1950 apart from seized enemy ships, and the size of the fleet remained static. The development is shown in two parts, with a break at the end of 1958, when the sixth Five-Year Plan for 1956-60 was cut short and replaced by the Seven-Year Plan. During 1951-58, the total tonnage was more than doubled, from 1,279,000 to 2,696,000 grt. The dry-cargo fleet rose by 862,000 grt from 1,157,000 to 2,019,000 grt, and the average size of the new ships of this type was only 3,000 tons, indicating a marked emphasis on expansion of small and medium-sized cargo vessels while the ocean-going fleet increased very little and continued to rely to a great extent on about 40 American-built ships of 7,000 grt dating from the last war, as well as some 30 even older large vessels. For tankers, the increase by 86 vessels of 486,000 tons to 562,000 grt reflects mainly the introduction from 1953 onwards of a Soviet-built standard-type tanker of 8,000 grt, of which about 50 had come into service by 1958. Additions to the auxiliary fleet consisted of small craft with an average size of under 1,000 grt. Table II gives a simple breakdown by sizes of the end-1958 fleet in its three main categories.

The second part of Table I shows how the fleet has grown in 1959-60, and is subject to possible upward correction for the second of these two years. The 1959 increase of 329,000 tons overall was only slightly better than 1957 (309,000), the best year in the 1951-58 period, but 1960 has produced a sharp acceleration with the addition of 466,000 tons, and to the two years as a whole one must probably add a further 73,000 tons of recently built tonnage which cannot be exactly identified by date. Incidentally, one Soviet claim made last year was that the total fleet tonnage rose by 7 per cent in 1959. If this percentage is related to the overall 1959 increase of 329,000 tons, the end-1958 fleet total would come out at about 4.7 mn grt, a figure which exceeds any of a number of estimates published in Western countries. The average size of the new dry-cargo ships in 1959-60 was about 4,500 grt, a noticeable rise from the 3,000 tons of the previous eight years. This is mainly accounted for by the introduction, though so far in only limited numbers, of several new types between 4,000 and 12,000 grt.

TABLE II—Composition of the Fleet at End 1958
('000 grt)

Size of Ship (grt)	Dry-cargo incl. Cargo-Passenger		Tankers		Auxiliaries incl. Ice-breakers		Total	
	No	Grt	No	Grt	No	Grt	No	Grt
Up to 3,000	293	533	36	41	143	82	472	656
3,001/6,000 ...	191	825	8	26	7	26	206	877
6,001/10,000 ...	78	550	62	495	1	7	141	1,052
10,001+	7	111	—	—	—	—	7	111
Totals	569	2,019	106	562	151	115	826	2,696

New tankers in 1959-60, totalling 258,000 grt, have averaged 9,500 tons compared with 5,600 in 1951-58, but the rise has been only in part due to the introduction of a new large-tanker series specified in the Seven-Year Plan, the prototype of which was the *Pekin*, of 19,500 grt, which has been followed by the *Varshava*, of the same size, and the slightly larger *Budapesht*, 21,300 grt.

The other reason has been the recent policy of buying abroad some new or modern tankers in the 16,000/25,000 grt range, of which four at least had been put into service by the end of 1960. There was no mention of any such intention in the original Seven-Year Plan. The Russians are still building the 8,000-grt type of tanker, but on a reduced scale.

If this practice of "beyond the Plan" expansion is continued, it may prove to render obsolete the original Seven-Year Plan target of a 2.2 times rise in dry-cargo tonnage (to perhaps 4.5 mn grt), and a 1.8 times tanker increase to about 1 mn grt, and this last figure in particular already looks rather unreal when the end-1960 tanker figure is 820,000 tons. Another piece of evidence, which casts some doubt on the Plan target for dry-cargo tonnage, is a recent Soviet claim that during 1959-65 their own shipyards will give the fleet 20 times as much tonnage of this type as in the seven years 1952-58. In this last period Russian yards produced perhaps 100,000 grt of dry-cargo tonnage, and 2 mn tons built at home would leave only 500,000 grt for delivery from Western countries, East Germany and Poland; and Soviet commitments for purchases from these last two countries alone far exceed this figure.

If, faced with such conflicting information as this, one adopts the course of not paying too much attention to Soviet percentage forecasts but relying as far as possible on Lloyd's Register and other external evidence of actual Soviet achievements, it seems a fair conclusion that the fleet's 1958 tonnage will at least be doubled by 1965, since out of a 100 per cent increase of 2.7 mn tons for the seven years almost exactly one-third (870,000 tons) has been added in 1959-60, and the pace of increase shows no signs of slackening.

The Russians have been placing more and more emphasis on standardisation of new tonnage, and there follows a list of the most important types of recently acquired vessels now operating:

Dry-Cargo

(a) Motor vessels of 1,200 grt, built in Hungary. About 60 can be identified by name, but over 100 have been produced for the Soviet Union since the war.

(b) Polish-built steamers of three types, 2,000 grt (25 built 1950-54), 2,600 grt (25 in 1953-57) and 3,800 grt (70 built from 1952 to date).

(c) From Finland about 30 steamers of 2,400 grt were delivered between 1946 and 1956 and about 14 motor vessels of 5,500 grt have appeared since 1955.

(d) East Germany from 1953 to date has provided about 45 ships of about 3,300 grt, one-third being steamers and the rest motor vessels.

(e) Also from East Germany have come since 1958 eight cargo-passenger ships of 4,700 grt (*Mikhail Kalinin* class) out of 20 ordered in all.

(f) East Germany has since 1958 delivered more motorships of 5,600 grt of the *Ugleuralsk* type, these being nominally coal/ore carriers which are, however, frequently used for general cargo work.

(g) At least 12 diesel-electric ships of 5,200 grt built in the Soviet Union since 1956.

Tankers

(a) Finnish-built small tankers—about 5 of 1,100 grt from 1952 to 1956 and the same number of 3,300 grt from 1955 to date, all motor vessels.

(b) The Soviet-built standard motor tankers already mentioned. Maximum production was achieved in 1957 when 12 were delivered, and the figure for 1960 delivery was five.

The Russians rarely indicate in advance how extensive will be the production of the various new series which they plan, but the following information is given on new dry-cargo types which may appear in large numbers. Five motor vessels of 10,000 grt such as the *Partizan Bonivur* appeared from Poland in 1958-60. East Germany produced in 1960 seven motor vessels of 7,200 grt of the *Dubno* type, and the Soviet Union has so far built four steam turbine ships of 12,000 grt of the *Leninsky Komsomol* type. The first large Russian gas-turbine ship, the *Pavlin Vinogradov*, of 5,000 grt, was built in the Soviet Union in 1960. So far as tankers are concerned, 15 of 4,000 tons are on order from Finland for 1961-63 delivery, but there is no information whether the 8,000-grt type will continue to be built, how many more 19,500-grt ships will follow the *Pekin*, *Budapesht* and *Varshava*, whether the purchase of ready-built ships from abroad will continue, or whether the recent orders for five vessels of 18/20,000-dwt from Japan and two similar ships from Poland are likely to be soon repeated.

NORTH PACIFIC NOTES

By a Special Correspondent

A FOURTH provincial government ferry is likely to be built by Burrard Dry Dock at North Vancouver, which bid $3,595,460. This fourth ferry will be completed by April 1962. Victoria Machinery Depot at Victoria is building the third ferry for the B.C. government Tsawwassen-Swartz Bay service. Yarrows Ltd at Victoria will build a self loading-unloading log barge for MacMillan, Bloedel & Powell River Ltd. The barge, to cost $800,000, will have a length of 339ft, a beam of 64ft and depth of 19.6ft. On completion in June she will be able to carry 1.5 mn board feet of logs. Yarrows are also building a self-unloading sand and gravel barge for Deeks & McBride Ltd, with dimensions: length 174ft, beam 46ft, depth 13ft. Cost of construction is $220,000. Delivery date is within two months.

The first hydrofoil US Navy patrol craft is being built by Boeing Aircraft at the J. M. Martinac Shipbuilding Corp. shipyard at Tacoma, Wash. Designated as a PC(H), the aluminium boat with a length of 115ft will be delivered in late 1962. As a Navy unit she will be used for anti-submarine and patrol duties.

Matson Navigation Co has changed ships in its fleet. Three old C2 class ships are to be laid up, while three C3 ships take on new names. *Hawaiian Banker* has been renamed *Sierra*, with the C2 *Sierra* now in lay up at Portland, Oregon. *Hawaiian Wholesaler* will be renamed *Ventura*. One ship of the line, *Alameda*, is presently in temporary lay up at Portland.

The port of Seattle will modernise West Waterway or Ames Terminal. General Construction Co has been awarded the contract. Tacoma will build a new grain pier west of Pier No 1 at a cost of $650,000.

Puget Sound Bridge & Dry Dock Co of Seattle will scrap Liberty ships in Everett, Wash. The company will start with six ships, and will employ 150 men for the work.

The port of Bellingham, Wash., has been dredged to a greater depth. Port Dock now has a depth of about 32ft, while Whatcom Creek Waterway is about the same depth.

A new grain elevator is being built by General Construction Co at the site of the Globe dock at Portland, Oregon. The elevator, to consist of 20 circular concrete silos and 27 storage bins, will be in operation by November 1. The pier, to be equipped with six loading spouts, will load ships at the rate of 2,000 tons an hour. The pier will store and have capacity for about two mn bushels of grain.

Venezuelan Line (Cia. Anonima Venezolana de Navegacion) of Caracas has discontinued service to Pacific ports and Mexico due to lack of business. The company had operated three ships on this route—*Anzoategui*, *Sucre* and *Yaracuy*.

The steel barge *VT104* was launched by Yarrows Ltd at Victoria on March 17 for Vancouver Tug Boat Co. The barge is 160ft long, 46ft beam and has a depth of 10½ft.

GERMAN-BUILT STERN TRAWLER

The stern trawler "Munchen" has been delivered by the Werk Seebeck of A. G. Weser to the "Nordsee" Deutsche Hochsee fischerei G.m.b.H. A vessel of 941 grt with an overall length of 241ft, she incorporates her owners' latest ideas on stern trawling gear. The main engine is an M.A.K. four-stroke diesel engine developing 1,600 bhp and driving an Escher-Wyss v.p. propeller. A shaft-driven generator can be used if necessary either to boost the main engine or for emergency propulsion

Royal Institution of Naval Architects

THE 1961 SPRING MEETING

THE SPRING MEETING of the Royal Institution of Naval Architects took place last week. At the opening session on Tuesday, it was announced by Viscount Runciman, who has been president of the Institution for the past ten years, that the council was nominating Viscount Simon as president, and he was subsequently elected by the meeting. Lord Runciman has thus decided to end a long period of distinguished service to the Institution which is the subject of comment in a leading article on an earlier page.

The result of the ballot for vacancies on the council was announced to be as follows:

Vice-president:—Sir Alfred J. Sims; Members of Council:—Messrs B. N. Baxter, G. Buchanan, Dr E. C. B. Corlett, Messrs W. J. Ferguson, J. L. Kent, A. J. Merrington, J. F. Starks, R. C. Thompson, G. R. Weir and E. G. Yarrow; Associate members of council:—Admiral of The Fleet Lord Mountbatten of Burma, Captain J. P. Thomson and Mr W. C. S. Wigley.

The William Froude Gold Medal was presented to Dr W. P. A. van Lammeren, director of the Netherlands Ship Model Basin. A Gold Medal had been awarded to Mr J. E. Connolly for his paper on the strength of propellers, but as he was at sea and unable to be present, it was received on his behalf by Mr R. N. Newton. Dr I. M. Yuille and Mr L. B. Wilson received a joint premium for their paper "Transverse Strength of Single Hulled Ships"; and the Samuel Baxter Prize was awarded to Lieut-Cdr G. W. R. Nicholl for his book "Survival at Sea," and his work on this subject.

In all, nine papers were read at the meeting. The first, by Mr R. J. Shepherd, chief ship surveyor of the Ministry of Transport, was read on the opening day: abstracts of this paper were reproduced in THE SHIPPING WORLD last week. Abstracts or summaries of the remaining papers are reproduced below.

Hull Structural Steel

The Unification of the Requirements of Seven Classification Societies

By G. M. Boyd and T. W. Bushell*

AT A MEETING held in the Head Office of Lloyd's Register of Shipping in London on 26 June, 1959, the seven major classification societies of the world agreed to unify their requirements for shipbuilding steel. This achievement, which at first sight may appear simple, was the result of protracted and difficult negotiations and will no doubt have far-reaching effects.

During most of the first half of the present century, the requirements of all the societies were, for practical purposes, alike, and were very simple in character. In the latter part of this period, however, and particularly during and just after World War II, important developments in shipbuilding technology occurred, which necessitated drastic revisions in the outlook of the societies towards ship steel. First among these must be cited the advent of welding as a method of ship construction on a large scale. The immediate effect of welding was to raise questions of weldability, tending towards the limitation of carbon and other constituents. This considerations was not, however, of great urgency, since the great majority of the shipbuilding steels currently produced gave little difficulties on this score, and the exceptions could be dealt with by suitable precautions.

A more serious difficulty arose, however, from the emergence of the brittle fracture problem, which was brought into prominence by a series of catastrophic fractures which occurred mainly in the American-built welded ships, and later affected many ships elsewhere, including the United Kingdom. The problem was, and still is, of a particularly complex and difficult nature, and its emergence gave rise to much controversy in technical circles. This could not readily be resolved by appeals to the facts, which themselves often seemed contradictory and anomalous. Moreover, the problem was of such urgency that immediate actions were called for. In the prevailing chaotic technical atmosphere, it was natural that the classification societies were driven to taking independent actions, leading to important divergences between their requirements. This gave rise to considerable difficulties and confusions, particularly when two or more classification societies were concerned with a single ship.

Concurrently with these developments, further important changes were emerging. The sizes of ships, and particularly of tankers, were increasing very rapidly, giving rise to new problems of strength and the welding of material of considerably greater thicknesses than were customary. The rapidly increasing demand for steel following the war raised problems of inspection and testing under high production conditions, and the advent of tonnage oxygen as a factor in steel production brought about revolutionary changes in processes of steel manufacture.

In this atmosphere of change and controversy, the possibilities of bringing about a clear policy on shipbuilding steel which would be acceptable to all classification societies seemed remote, particularly considering the wide divergencies in the circumstances faced by the societies, arising from geographical, political and other factors. Nevertheless, the need for unification was apparent, and the pressure from shipbuilders, owners and steelmakers was mounting. The latter particularly were seriously concerned by the growing number of diverse and sometimes incompatible requirements.

Before the actual work of drafting unified requirements could be attempted, several important basic questions had to be resolved, and some reconciliation had to be made between the differing basic approaches of the several Societies.

Probably the most fundamental and difficult of these questions arose from the close interaction between (a) the definition of a certain number of grades of steel, and (b) the definition of the circumstances, such as thickness and location in the ship, in which the various grades should be required. It was found during the early discussions that these two aspects seemed to be inextricably entwined. It seemed practically impossible to define a steel without special regard to its application. This meant that the task would involve not only the unification of the sections of the Rules dealing with material, but also of the construction Rules in so far as they related to the choice of steels. Such a task, in view of the prevailing atmosphere of controversy and lack of precise knowledge on the brittle fracture problem, appeared to be beyond the bounds of practicability. After considerable discussion, however, it was decided to confine the task to the definition of a certain minimum number of grades of steel, and to leave the matter of application in abeyance.

It was fortunate that the 22 grades required at the time by

* The authors are respectively technical records officer and principal metallurgical surveyor of Lloyd's Register of Shipping.

the seven societies could be roughly placed in the following broad categories:

1. Ordinary ship steel for the lower thicknesses and less important locations.
2. An intermediate category in which notch ductility was to some extent controlled, for the intermediate thicknesses and more important locations.
3. A high grade, in which the notch ductility was closely controlled, for the heavy thicknesses and specially important locations.

It was not found possible to reduce the 22 existing grades to these three, for reasons which will be given later, but eventually five grades were agreed upon.

Another fundamental problem arose from the fact that there are two basic principles upon which a grade of steel can be defined, particularly in regard to notch ductility, i.e.:

1. By specifying the metallurgy and manufacturing process, including composition, deoxidation practices, heat treatment, etc, and
2. By specifying mechanical tests by which the quality of the finished product can be judged.

The first of these is superficially attractive to the steelmaker, since the specified requirements can be determined before the steel is made. It has, however, the serious disadvantage that in order to ensure the necessary control, the metallurgical requirements must be very closely defined, imposing serious restrictions on the freedom of action of the steelmaker in his own works.

The second alternative is attractive to the engineer or shipbuilder, who is concerned primarily not with the method of manufacture or composition, but with the properties and quality of the finished product.

Opinions were sharply divided on this point, and it was difficult to find a compromise which would meet the widely different conditions in different parts of the world. Broadly speaking, American opinion was in favour of the former, while European opinion favoured the latter, after a period of strong resistance on the part of steelmakers to any form of notched bar or impact testing. One important factor in the controversy was that the metallurgical alternative entailed fully killed steel, preferably grain controlled and normalised. The facilities for making such steel, and the corresponding steelworks practices, were mainly in America and Germany, while in the United Kingdom and other countries, the practices were based on semi-killed, or balanced, steel with suitable compositions, and in some cases with controlled rolling, to ensure the required properties. It was finally agreed to include grades based on both methods of control, and this is one reason for arriving at five grades instead of the possible three mentioned earlier.

The Unified Requirements

The draft as finally agreed at the London meeting of 26 June 1959 consists of 27 clauses and a table of requirements for five grades of steel.

The clauses cover such matters as method of manufacture, freedom from defects, testing and inspection, surface inspection and dimensions, identification, branding, mill sheets, makers' certificates, facilities for inspection, tensile, bend and impact tests, numbers of tests, position of test pieces, heat treatment, chemical analysis, and grain size. The table contains specific requirements for methods of manufacture, deoxidation, grain size, chemical compositions, tensile tests and elongations, impact and bend tests, and heat treatment.

Not the least important feature of the agreement has been the uniform definition of a large number of apparently minor items of a routine nature, embodied in the 27 clauses. A great deal of the irritation felt by steelmakers and others had arisen from just these minor points, such as forms of certificates, branding, sizes and directions of test pieces, etc.

These clauses also regularise a number of practices which had become customary, but which had not been explicitly stated in the Rules. An example of this is the vexed question of surface inspection, with which is associated the matter of responsibility for dimensions of final products. The Unified Requirements state definitely:

> "Surface inspection and the verification of dimensions are the responsibility of the steelmaker, and acceptance by the surveyors of material found to be defective shall not absolve the steelmaker from this responsibility."

The 27 clauses are drawn in a general form, without restriction to the five "ship" grades, and without distinction between forms of finished product, such as plates, bars, sections, etc. This introduces a considerable simplification, and it is envisaged that the same clauses could be made to cover a considerably wider range of structural steels.

As mentioned earlier, the objective of the unification was to reduce the number of different grades to a minimum, with the least possible change in the existing requirements. It was found that the actual requirements could be covered by five grades as follows:

Grade A: This is the "ordinary" grade, having a minimum of restrictive requirements, in line with the old Rules of all the societies, but incorporating the recent amendments, i.e. limitation of sulphur and phosphorus to 0.05 per cent and a minimum manganese/carbon ratio for thicknesses over ½in. Rimming steel has been eliminated for this grade (and for the others), except that each society may accept such steel in special circumstances for grade A only.

Grade B: This is virtually the existing ABS class B with minor amendments in the chemical composition. There was no direct equivalent to this grade in the Rules of the other societies.

Grade C: This is a fully killed, fine grain steel practically the same as the existing ABS class C, with the carbon content slightly reduced, and a wider range of manganese content. No impact or notched bar tests are required. Normalising is required for thicknesses over 1¼ in.

Grade D: This is practically the same as Lloyd's "P.5" grade, and reliance is placed mainly on the impact test. The method of manufacture is not controlled, except that rimming steel is excluded and the process is subject to approval. The chemical composition is widely drawn with the sole object of excluding compositions which might give difficulty in welding.

Grade E: This is the highest grade and corresponds to similar grades previously required by the societies. It is controlled at all points, i.e. process, deoxidation, grain size, composition impact testing, and heat treatment.

The tensile requirements (26-32 tons/sq in, 22 per cent elongation on $5.65\sqrt{A}$) are the same for all grades.

In the interests of unification, each of the seven societies has agreed to various compromises, and has made some sacrifices of principle.

THE BEHAVIOUR OF LONG DECKHOUSES

By J. C. Chapman

The work described in this paper was undertaken in the Civil Engineering Department of Imperial College for the British Shipbuilding Research Association. This paper, which follows an earlier paper on the same subject, aims to clarify certain aspects of hull-deckhouse interaction, the assumption being made that the stress distributions in the hull and deckhouse are respectively linear (but not collinear). Graphs are plotted showing the influence of deck stiffness on deckhouse deflection and stress, and it is demonstrated that the influence is small where several bulkheads are present. Where no bulkheads are present the distribution of bending moment along the length of the deckhouse is found to depart greatly from that indicated by the simple theory of bending, even for a very high value of foundation modulus. Shear eliminating brackets are found to have the intended effect of greatly reducing deckhouse stresses.

The results of the present paper support an earlier suggestion that in view of the small influence of the foundation modulus when several bulkheads are present, and the practical difficulty of estimating the modulus, much useful information can be gained by assuming it to be zero. An example is worked on this basis for a ship having five bulkheads and the forces exerted by the bulkheads are found to be of the order of 100 tons on each side of the deckhouse. Model experiments are described in which the influence of the deckhouse connections on the relative movement between hull girder and deckhouse

(*Continued on page 333*)

Extracts from the P & O Chairman's Speech . . .

OUTLAW this form of behaviour

Damage to British Trade and Livelihood by Irresponsible Strike Action

"To outlaw this form of behaviour," was the phrase used by Sir Donald Anderson, P. & O. Chairman, to the company's stockholders to describe a strike obligation of Trades Unions towards irresponsible labour.

Newport and Liverpool, they returned again and finished the job—14 days late. One of the few points that everyone agreed was that the shipowners were not at fault in any way. But they and the equally blameless shippers were the only people who suffered.

"Employers are quite impotent to prevent this sort of thing," Sir Donald declared. "public opinion so far has been impotent; and if Trades Unions are impotent too, what is left except action by Government? I do not believe that this is the right answer, because I believe that industries should govern their own labour relations themselves, but public opinion has become sceptical of the ability of the Trades Unions to outlaw this form of behaviour, and one can hardly be surprised."

This is an extract from the Chairman's address, copies of which, together with the Annual Report, can be obtained from the Secretary of the Peninsular and Oriental Steam Navigation Company, 122, Leadenhall Street, London, E.C.3.

STILL TOO MANY SHIPS

No Quick Recovery for Shipping Outlook Foreseen

THERE are still too many ships in the world," stockholders of the P. & O. Company were told in London yesterday by Sir Donald Anderson, their company chairman, "so that, although we feel confident that the worst is over, we do not foresee any quick recovery for shipping prospects."

There were too many tankers and too many dry cargo ships, he said, and [illegible] had been [illegible] grain [illegible] were [illegible]

"So, I think we must not assume," Sir Donald went on, "at this stage that the present year to the end of September will produce results which are materially better than those before you."

This was the first time he has had the honour of presenting the Accounts to the meeting as their Chairman, and Sir Donald said that it would have been nice for him if this had coincided with a smart upswing in the fortunes of shipping. He is afraid that it had not, but that so far as [illegible] people belong, [illegible] 200 beaches on an "all-clear" list.

We Prefer WORK to the DOLE . . .

P & O Attitude to Subsidy for British Shipping

SUBSIDY as a permanent and universal ingredient in the economics of British Shipping was a subject examined by Sir Donald Anderson, Chairman of the P. & O., in his inaugural speech to the company's stockholders yesterday.

He expressed the [illegible] attitude [illegible]

course open to Britain and others of like mind was, he affirmed, not to follow such Governments but to try to contain this trend, and in particular to prevent [illegible] of the world's [illegible] closed to [illegible]

If you are interested to read more write to the Secretary, P & O,. 122 Leadenhall Street, E C 3

The 121st Annual General Meeting of the Peninsular and Oriental Steamship Navigation Company was held on 29th March in London at the Queen's Room, Baltic Exchange Chambers, 14/20 St. Mary Axe, E.C.3. Copies of the Chairman's speech and of the Company's Annual Report may be obtained on request.

Oil Topics

A NEW TYPE OF TANKER

THE VARIOUS forms of gas now employed as fuel are leading to a growing number of variants of the gas-carrying tanker. The pressurised L.P.G. tanker is now commonplace, the refrigerated methane tanker has been proved in practice with the *Methane Pioneer*, and a combination of the two ideas—a refrigerated L.P.G. tanker—is under construction in Japan (*SW*, 15.3.61). Now a further variant has been launched in Norway. This is an L.P.G. tanker in which a combination of pressure and refrigeration is employed to bring the gas to the liquid state. The vessel, the *Mundogas Brasilia*, is building by Fredriksstad mek. Verksted for Oivind Lorentzen, of Oslo. She was launched by Princess Ragnhild of Norway, who is the daughter-in-law of the shipowner, and the whole of the Norwegian royal family was present.

Combined Pressure and Refrigeration

THE *Mundogas Brasilia* retains the tanks of the normal pressurised L.P.G. carrier, although they are spherical and not cylindrical in shape. There are five cargo tanks of 47ft diameter, with a total capacity of 278,000 cu ft, providing cargo space for about 4,200 tons of propane. In addition there is a deep tank which can take 2,500 tons of water ballast. The tanks are insulated, and sufficient refrigeration is applied to make a pressure of three atmospheres (about 45 lb/sq in) enough to ensure liquefaction. The gas is discharged by pumps, one for each tank, with a capacity of 300 tons/hour each. They pass the liquefied gas to booster pumps, which deliver it to the non-refrigerated shore tanks at pressures of up to 17 atmospheres. The booster pumps have a combined capacity of 600 tons/hour, allowing the ship to be unloaded in a single day. The *Mundogas Brasilia* is intended for service between U.S. Gulf and Brazilian ports, carrying propane or butane. She is propelled by a 6-cylinder Gotaverken-FMV diesel engine developing 5,600 ihp, giving a speed of about 15 knots.

Shorter Notes

Last year, British-based oil companies placed in the U.K. orders valued at £118,911,930—according to figures published by the Council of British Manufacturers of Petroleum Equipment, on behalf of the Oil Companies Materials Secretariat. This sum is nearly £2 million more than the total for the previous year of £117,256,894. Rather more than half of last year's orders (some 56 per cent) were destined for use overseas. The oil companies' requirements affect a very wide range of British industries, with orders ranging from heavy drilling and refinery apparatus to delicate instruments.

FOR the six months ended November 30, 3,071,100 barrels of various oil products were supplied to vessels refuelling at the bunkering terminal operated by Freeport Bunkering Company Ltd in the Bahamas. During this period 556 ships totalling 11,340,000 dwt cleared HM Customs at Freeport. It is believed that the bunkering installation is the largest single installation in volume in the world. The facilities are to be substantially increased by the addition of further storage capacity and a second 16-in pipeline which will be taken out to sea to an offshore mooring located in 50ft of water. The present 18-in pipeline will also be extended to the same depth. Additional harbour facilities are also to be provided.

THE CORK HARBOUR COMMISSION has made a further reduction of 5 per cent in tonnage and goods dues as from March 31. To meet a temporary reduction of revenue the board increased tonnage and goods dues by 10 per cent in October 1957, and this was reduced to 7½ per cent in March 1959. The surcharge was further reduced last year to 5 per cent and the present reduction represents total abolition of the surcharge.

RECENT SHIP SALES

Cargo steamer *Clan Macfarlane* (ex-*Sambrian*, launched as *John Branch*, 10,956 dwt, 7,258 grt, 4,424 nrt, built 1943 by North Carolina Shipbuilding Co) sold by Clan Line Steamers Ltd to Frinton Steamship Co Ltd for £106,500 with one year's extension of class.

Cargo steamer *Dongola* (ex-*Rabaul*, 10,190 dwt, 7,371 grt, 4,397 nrt, built Vancouver 1946 by West Coast Shipbuilders Ltd) sold by P & O Steam Navigation Co to Surrendra Overseas (Private) Ltd, Calcutta, for £105,000 with May delivery U.K.

Motor vessel *Ciudad de Caracas* (ex-*Double Loop*, 6,007 dwt, 3,805 grt, 2,160 nrt, built Savannah, Ga, 1945 by Southeastern Shipbuilding Corp.) sold by Cia. Anon. de Venezolana de Nav. to Greek buyers.

Cargo steamer *Grenoble* (ex-*Henry George*, 10,352 dwt, 7,243 grt, 4,300 nrt, built 1942 by Oregon Shipbuilding Corp.) sold by French Government to Italian buyers for £86,000.

Motor vessel *Gunhild K.* (925 dwt, 500 grt, 274 nrt, built 1955 by Ottensener Eisenwerke) sold by Fridtjof Kristiansen, Oslo, to other Norwegian buyers for £100,000.

Great Lakes steamer *Denmark* (5,448 grt, 4,434 nrt, built 1909 by Toledo Shipbuilding Co) sold by T. J. McCarthy Steamship Co to American buyers.

Passenger steamer *Corfu* (14,280 grt, 7,405 nrt, built 1931 by A. Stephen & Sons Ltd) sold by P & O Steam Navigation Co to Japanese shipbreakers for £185,000.

Cargo steamer *Dimitrakis* (ex-*Marianne*, ex-*P.L.M.13*, 4,014 grt, 2,071 nrt, built 1921 by Smith's Dock Co Ltd) sold by Three Diamonds Shipping Corp., Monrovia, to Greek shipbreakers, having been idle at Piraeus since 28 February 1961.

Motor vessel *Alderney* (ex-*Crete Avon*, ex-*Livarden*, ex-*Heinz Horn*, 4,072 grt, 2,259 nrt, built 1928 by F. Schichau) sold by Leighton Shipping Co Ltd, London, to Eckhardt & Co, Hamburg, for about £41,000 for demolition. She has been idle at Cardiff since December 1958.

RECENT PUBLICATIONS

THE Marine Reduction Gear Research Committee, organised by the Ship Machinery Manufacturers' Association of Japan, has issued its report on the results of research work conducted on marine reduction gears manufactured in Japan. This report, the third that has been issued since the committee was set up in 1956, covers a number of subjects which include the standard of noise measurement for marine reduction gears, experimental results on load distribution, tooth loading, bending fatigue tests and studies on hobs.

THE LATEST CATALOGUE issued by Ferodo Ltd, Chapel-en-le-Frith, Stockport, is a completely new publication containing 270 pages bound together in an attractively designed cover. It has a separately illustrated introduction and contains details of linings, clutch discs and inserts, friction wheels etc. Copies of the catalogue, which has been designed by Spearhead Services Ltd and printed by Chorley & Pickersgill, may be obtained from any Ferodo depot or direct from the manufacturers.

A FURTHER EDITION of the Camrex marine handbook has been issued by Camrex Paints Ltd, Camrex House, Hudson Road, Sunderland. This new edition incorporates a number of the company's latest high-quality surface coatings which it is considered should be of interest to all shipowners, consultants, superintendents and staffs. Also included is a maintenance and preservation section for all types of ships.

THE International Chamber of Commerce has published a *Guide for the Drawing up of Agency Contracts* between parties residing in different countries, with the object of indicating the many factors and contingencies to which the parties and their legal advisers might appropriately give their attention when establishing agencies in foreign countries. The Guide (price 4s 6d) deals with agency in the strict legal sense of the word and has no concern with so-called "agents" who act as principals, such as distributors who sell in their own right under exclusive sales agreements.

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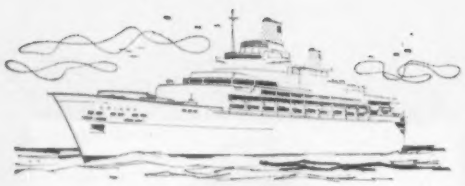

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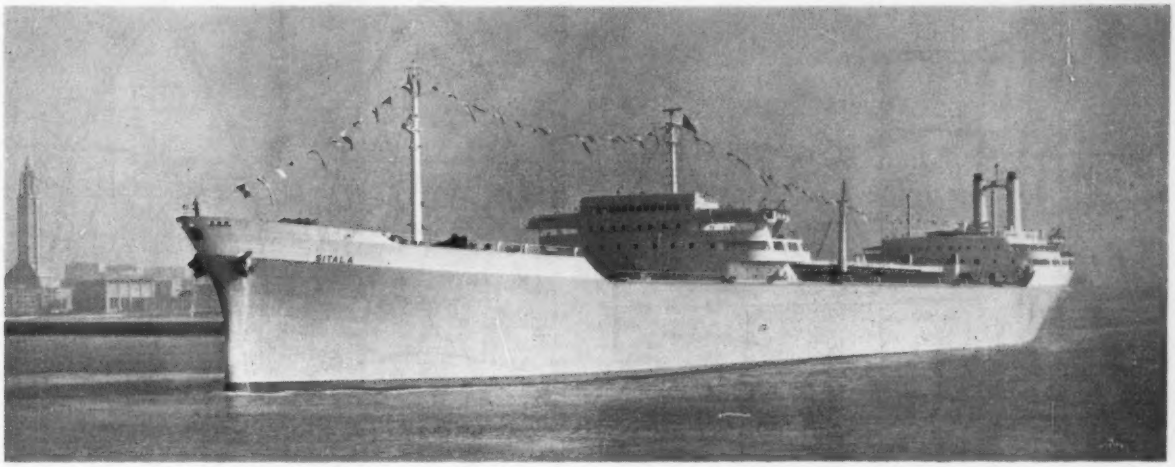


Oil Tanker "Sitala"

NEW VESSEL FOR SOCIÉTÉ MARITIME SHELL

THE FIRST of two large oil tankers on order from the Chantiers de l'Atlantique (Penhoet-Loire), St Nazaire, has been delivered to her owners, Société Maritime Shell. This vessel, the *Sitala,* 73,148 dwt, is the largest tanker flying the French flag. She is the seventh vessel to be built for the French Shell Company at St Nazaire, the last series being five 31,987-dwt tankers *Isanda, Isidora, Isocardia, Isomeric* and *Isara,* and the 41,337-dwt *Iselia;* the *Isanda* was described in THE SHIPPING WORLD of 6 April 1955. Just now there are ten tankers ranging between 48,000 and 76,750 dwt either on order or under construction at the St Nazaire shipyard, where the liner *France* is also being built.

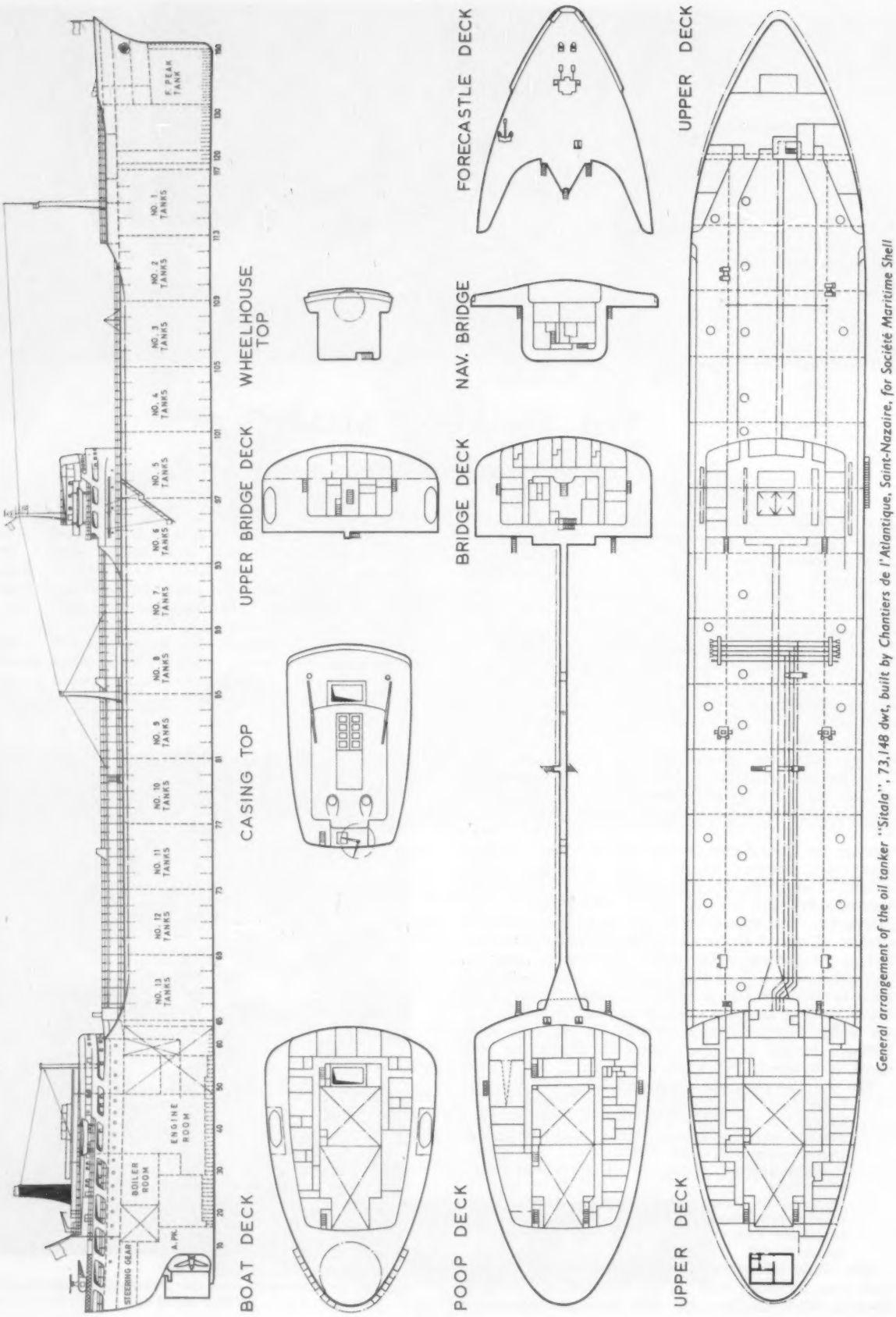
The *Sitala* has several features of interest, apart from the twin exhausts which replace the conventional funnel, and the helicopter flight deck on the poop. Her exceptionally large beam and correspondingly low draught will enable her to carry over 10 per cent more cargo through the Suez Canal than a typical tanker of equal deadweight. Another feature is the new Shell colour scheme in which she has been painted (*SW,* 15.3.61). The superstructure and funnels are all white, and the hull pale green. The engine room has quite a considerable amount of special equipment which includes remote control of the burners in the boilers, horsepower, rpm and fuel consumption recording apparatus, and control of main temperature and pressure in different service lines. The propelling machinery, which can be controlled from the bridge, consists of a set of CEM-Parsons type steam turbines, having a normal rating of 22,000 shp. The speed in service is 16.5 knots.

The principal particulars of the *Sitala* are as follows:—

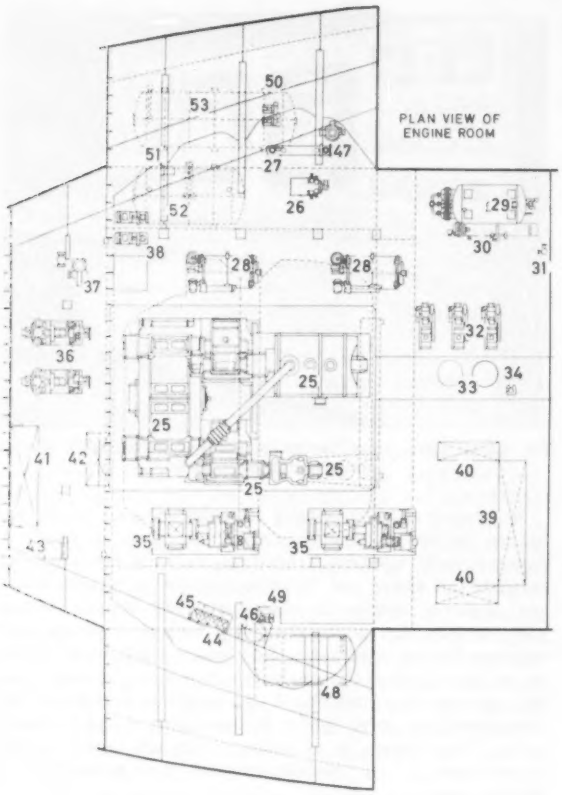
Length o.a.	849ft 1in
Length b.p.	808ft 9½in
Breadth, moulded	116ft 10¾in
Depth, moulded at upper deck ...	60ft 4½in
Draught, summer	43ft 3in
Deadweight	73,148 tons
Displacement, light	20,739 tons
Displacement, summer loading ...	93,890 tons
Machinery output	22,000 shp
Speed, loaded	16½ knots

The *Sitala* is mainly of welded construction and the tank area has been built on the longitudinal system of framing, while the fore and after parts are constructed on a composite system. The tanks are subdivided by 12 transverse and two longitudinal bulkheads. Every other bulkhead in the wing tanks has an opening, thus forming six double wing tanks. Two pairs of double tanks, located in about the amidships position, are used solely for ballasting. The area used for tanks is about 69 per cent of the length between perpendiculars. A non-watertight longitudinal runs through the entire centre of the tank space, and is extended, in the same manner as the watertight longitudinal bulkheads, forward into the deep tanks and aft into the engine room.

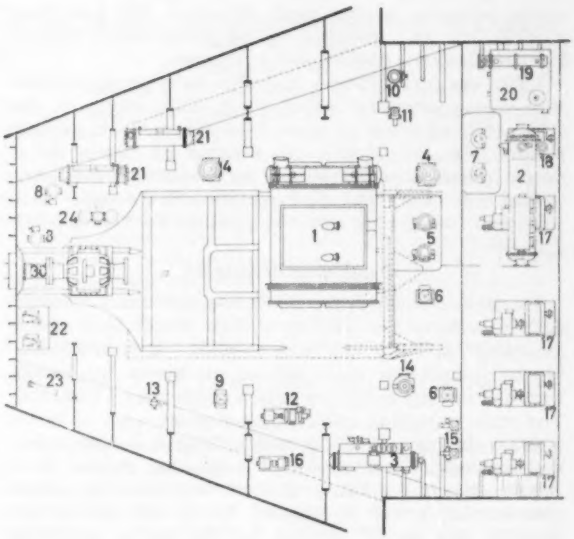
View from aft which clearly shows the rounded gunwale and one of the universal fairleads



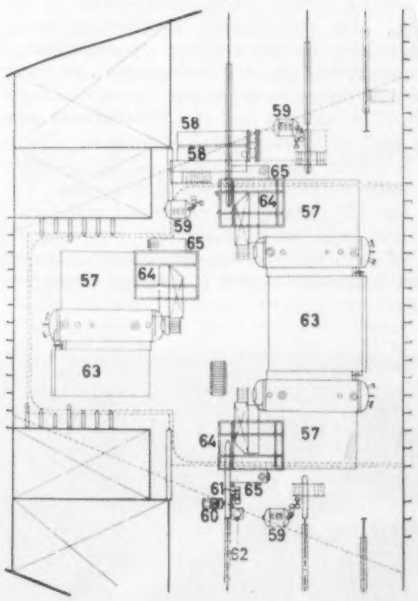
General arrangement of the oil tanker "Sitala", 73,148 dwt, built by Chantiers de l'Atlantique, Saint-Nazaire, for Société Maritime Shell



PLAN VIEW OF LOWER LEVEL



PLAN VIEW OF MAIN DECK



MACHINERY ARRANGEMENT

1 Main condenser
2 Cargo pump atm. condenser
3 Contam. steam cond. and hot well
4 Main circulating pumps
5 Main condensate pump
6 Bilge, ball. and gen. service pump
7 Drain booster pump
8 Lub. oil pumps
9 Fire and gen. service pump
10 Fuel oil transfer pump
11 Boiler service and transfer pump
12 Fire and Butterworth pump
13 Bilge reciprocating pump
14 Atm. cond. circ. pump
15 Evaporator feed pump
16 Air cond. refrig. pump
17 Cargo pump
18 Ballast pump
19 Drain cooler
20 Drain tank
21 Lub. oil cooler
22 Lub. oil separator
23 Lub. oil heater
24 L.O. suction filter
25 Turbines and reduction gear
26 Main air ejector
27 Gland leak-off condenser
28 Evaporating distilling plant
29 LP steam generator
30 Drain cooler for evaporator
31 Emergency desuperheater
32 Air compressor
33 Compressed air vessel
34 Air cooler
35 Turbo-alternators
36 Turbo-feed pumps
37 Reciprocating feed pump
38 Burner pump
39 Main switchboard
40 Pt. and stbd. switchboards
41 Main gauge board
42 Control desk
43 Telephone hood
44 Engineer's oil tank
45 Kerosene tank
46 L.O. tank
47 Bled-steam heater
48 Gas oil tank
49 Gas oil pump
50 Seal gland leak-off exhauster
51 Turbo-feed pump leak-off exh.
52 Standby oil pump
53 Dirty oil pump
57 Boiler
58 Fuel oil heater
59 Air heater drain tank
60 Firing pump
61 Treatment pump
62 Dissolving tank
63 Economisers
64 Air heater
65 Superheat regulator

Automatic-tension steam winches have been fitted as follows:—two on the forecastle, one in the fore well, one in the after well, two on the poop deck and two on the boat deck. These winches are used together with swivelling fairleads. The windlass is of conventional type, there are two 20-tons capstans, and the oil hoses are handled by 10½-tons cargo winches located on the main deck.

The accommodation has been arranged on traditional lines and is air-conditioned throughout. In the midship structure cabins are provided for deck officers, there is also the captain's suite, the owner's suite, wheelhouse, chartroom and radio room. Aft on the poop deck cabins have been provided for the engineers, POs and crew. Here also are the various mess rooms and pantries, recreation room, galley, laundry, drying room etc.

Thermoplastic tiling has been used for the flooring of all cabins, and laminated plastic covering has been used generally for the bulkheads of the POs' and crew's cabins as well as the alleyways. In the officers' cabins and in some of the messrooms, a washable plastic cloth has been used, and in the service rooms the bulkheads have been covered with highly resistant polyester paint which makes the problem of maintenance a light one.

Cargo Handling

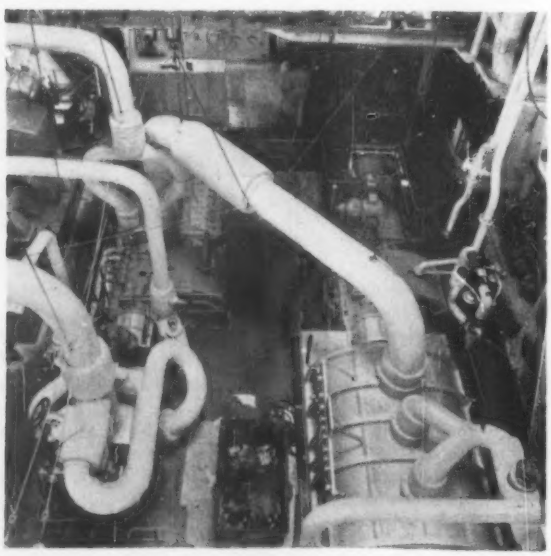
Cargo is handled by four Worthington centrifugal pumps each of about 2,160 tons/hour capacity at a total

head of 377ft. The pumps are driven through reduction gearing by steam turbines each having a nominal rating of 1,400 hp. Water ballast is handled by a turbo-driven pump of 1,300 tons/hour capacity at a total head of 310ft. The rating of this set is 650 hp. Two reciprocating stripping pumps each of about 300 tons/hour capacity are also installed. These pumps draw from a 250mm diameter ductile cast iron main.

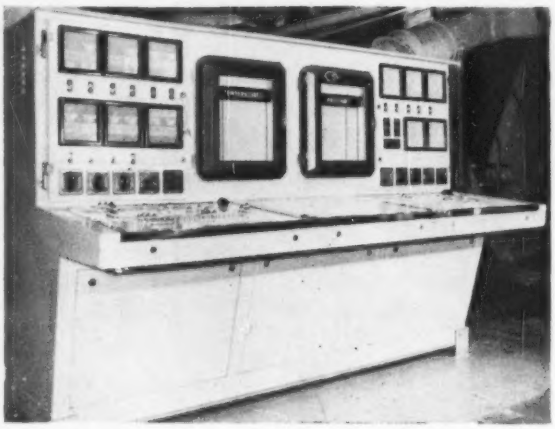
There are four 450-mm diameter main cargo pipelines with cross-connections which allow either pump, in the event of breakdown, to draw from the main of another pump. The wing tanks are drained by means of a simple sluice valve located at the bottom of the longitudinal bulkhead. The discharge lines on the upper deck consist of four ductile cast iron pipelines each of 400-mm diameter.

Propelling Machinery

The engine room in the *Sitala* contains much of interest. Automation is used to a high extent and special recording apparatus has been installed. It is also possible to control the main turbine machinery by remote control from the bridge by means of the ship's telegraph. The main propelling machinery comprises a set of steam turbines driving a single propeller through double reduction gearing. The arrangement is unusual, at least for a British ship, and consists of three turbines. For ahead manoeuvring power is supplied by an HP turbine exhausting into an LP turbine; but for astern movement power is supplied by an independent HP astern turbine coupled to the after end of the HP pinion which exhausts into the LP astern turbine incorporated in the LP ahead casing. This arrangement, by allowing more even temperatures because the turbines are separated, should help to avoid distortion; but it does seem to lead to a complexity of piping in the engine room. It is also probably costly. The turbines are of CEM-Parsons type and have been built by Chantiers de l'Atlantique. The normal output is 22,000 shp at 99 rpm of the propeller, and the maximum output 24,000 shp at 102 rpm. The gear case and the LP turbine are of welded construction. MECI recorders have been installed for measuring the temperature of each turbine and the reduction gearing bearings. Steam to the HP turbine is supplied through three nozzle groups.



View looking down on the main turbine machinery, showing the independent HP astern turbine coupled to the after end of the HP pinion



The control panel above carries two multi-scale indicators showing pressures and temperatures

As stated, engine control can be effected from the bridge. When on remote control the system, which is pneumatically operated, functions only in the positions between full ahead and full astern on the telegraph. There are, however, means of disengaging the remote control gear so that the engineroom staff can take charge, for instance for an emergency full astern movement. When on normal control the engineer on watch can either use the manoeuvring handwheel, or manoeuvre through the compressed air servo motor by operating a hand control lever. This system is of value in French vessels which do not have as many watchkeepers on duty as we have in British ships.

Remote Control of Burners

Steam is generated in three Foster Wheeler ESD 1 type boilers arranged as shown on the accompanying drawing, and having the following particulars:—

Pressure at the superheater outlet ...	640 lb/sq in
Temperature of superheated steam ...	940 deg F
Output (metric)	22/35 tons

One of the boilers has been fitted with five burners supplied for experimental purpose by Associated British Combustion Ltd, Porchester, Hants. This equipment was designed in conjunction with the owners' requirements. In view of the power demands anticipated on this vessel the straightforward pressure jet system was decided upon. The oil burners and registers comprise five 12in burners mounted in "Suspended Flame" registers. The burners were supplied with pneumatically-operated air slide controls; and incorporate a further feature, necessary in the presence of high combustion air temperatures, of a steam purge and cooling air supply port. The other two boilers are equipped with three Atlantique burners. The ignition and extinction of all these burners is controlled remotely from a console by means of compressed air. This console is part of the main boiler control panel. The boilers are fitted with superheaters, superheat regulation by attemperator, Green economisers, internal desuperheaters and bled steam air heaters.

Superheated steam is maintained automatically at a temperature of 940 deg F by means of MECI automatic combustion control and by use of attemperators. These are located in the air circuit downstream of the steam heated air heaters. After the first section of the superheater, superheated steam passes into the attemperator and is then led into the second superheat section. Depending upon the steam temperature to be maintained, more or less air is passed through the attemperators by means of dampers.

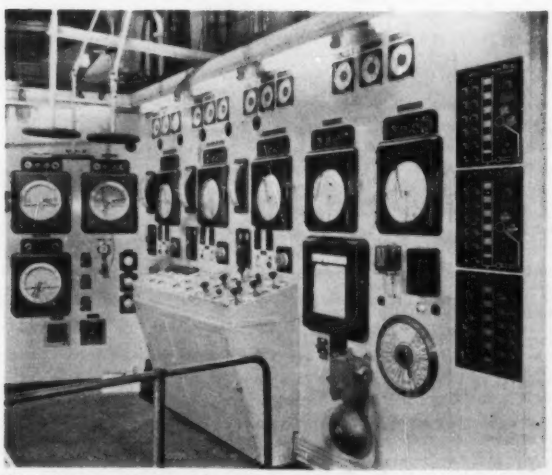
Special high and low-water level alarms have been fitted to the boilers which also have automatically controlled soot blowers. Three forced draught fans have been installed, one for each boiler. These fans have been installed in a space above each boiler. Air is usually drawn from this space but arrangements have been made so that the air can be drawn from outside the boiler room, thereby allowing the entry of fresh air, which is a great asset when carrying out repairs to the boilers.

The main condensing equipment consists of a condenser located under the LP turbine. Circulation of sea water is by means of two electrically-driven pumps each of about 3,000 tons/hour capacity. Two condensate pumps, one used as standby, draw from the condenser hot well and discharge to the deaerator through the main air-ejector condenser, a gland exhaust condenser and a low-pressure feed heater. The deaerator is fitted with Masoneilan regulators.

Two Weir-Atlantique made turbo-feed pumps, each of 145 tons/hour capacity, draw from the deaerator and discharge directly into the boilers through a Copes Delas feed water level regulator. For emergency purposes a 50-tons/hour capacity Fryer steam-driven reciprocating feed pump has been installed. The drain tank receives the miscellaneous draining lines, the steam air heater drains, cargo pump condenser condensate and make-up water for the circuit. The system, in point of fact, consists of two separate water circuits; the main condensate pump circuit with regulators for maintaining a constant level in the main condenser, and the drain tank circuit with regulators on the delivery side of the drain pumps, for maintaining a constant level in the deaerator and in the drain tank.

Special equipment supplied by the Compagnie des Compteurs permits control of the main temperature and pressure in different sections of the steam, water, lubricating, fuel oil and smoke circuits from a panel located adjacent to the main engine control panel.

Other special equipment includes Philips engine monitoring equipment for the continuous measuring and recording of shaft speed in rpm, horsepower and fuel consumption. This equipment, which has been specially designed and is being produced by N.V. Philips Gloeilampenfabrieken, Holland, was described in The Shipping World of 15 June 1960. OTIC recording flow meters are installed in various positions in the main and auxiliary steam circuits and bled steam circuits, and an Askania viscosimeter in the fuel line to the burners keeps the oil at the correct viscosity.



MECI boiler control panels. The portion of the panel in the centre contains the knobs for the pneumatic burner slide operation

ROYAL INSTITUTION OF NAVAL ARCHITECTS

(*Continued from page 326*)

was found to be considerable. The general experimental behaviour gives reasonable support to the theory.

SCALE EFFECT EXPERIMENTS ON VICTORY SHIPS AND MODELS

(Parts III and IV)

By A. J. W. Lap and J. D. van Menen

The authors are respectively head of the Shallow-Water Laboratory, and assistant director, of the N.S.M.B. at Wageningen. In Part III results are presented of open-water tests with geometrically similar models of a Victory wake-adapted screw to six different scales, ranging from scale 50 to scale 6. An analysis of these results was made according to Lerbs' method of the equivalent radius of the screw. This analysis enabled conclusions to be drawn about the effect of Reynolds number on the open-water test results of this type of screw. In Part IV the results of self-propulsion tests with Victory models to scale 6, 18, 23, 30, 40, and 50 at self-propulsion point of model are analysed on the basis of the results of open-water tests.

THE EFFECT OF FOREBODY SECTION SHAPE ON SHIP BEHAVIOUR IN WAVES

By W. A. Swaan and G. Vossers

The authors are again from Wageningen, where Mr Vossers is head of the Sea-keeping Laboratory. The paper describes experiments which have been carried out with a series of six models. These models had the same principal dimensions and displacement, but differed in section shape in the forebody and in prismatic coefficient. Results are presented from tests in head seas and in bow seas. Measurements have been made of pitch, heave, motion of the bow relative to the waves, thrust increase, and midship wave bending moments. It is concluded that U-shaped sections are advantageous as regards wetness, speed loss, bending moments and even as regards slamming on some occasions. V-shaped sections are advantageous as regards motions, especially in waves longer than the ship (i.e. for small ships).

THE STABILITY AND CONTROL OF DEEPLY SUBMERGED SUBMARINES

By T. R. F. Nonweiler

This paper presents some notes on the deductions from a mathematical study of the motion of a submarine in the vertical plane, ignoring effects of the free-surface. Mathematical analysis is omitted, but a criticism is offered of the fundamental assumptions of the analysis, and a distinction drawn between such essential assumptions, and those introduced merely to simplify the treatment. Some comments on the results of the simplified analysis of submarine stability and response to specific disturbances leads to a discussion on the method of ship control, particularly having in mind the wide range of operating speeds now possible. Mr Nonweiler is consultant to the Admiralty Experiment Works, Haslar.

THE PROPULSIVE PERFORMANCE OF A GROUP OF INTERMEDIATE TANKERS

By H. J. S. Canham and W. M. Lynn

The paper deals with propulsive performance data obtained from (i) the acceptance trials of a group of eight Shell 18,000-dwt tankers; (ii) measured-mile trials on two of these vessels carried out at various stages in service; (iii) voyage records received from one of the vessels in service. Hull roughness surveys were carried out near the time of the trials. Variations in acceptance trial performance are partly attributed to differences in hull roughness. Repeat trials on the vessels in service revealed significant reductions in trial performance after only 12 months, due to increased hull roughness. After longer periods in service hull roughness was further increased and trial performance consequently reduced between dry-dockings. Cleaning and re-painting the hull in dry-dock only resulted in a partial recovery in trial performance. Loss of propulsive performance in service was confirmed by voyage data. Analysis showed a Froude ehp allowance of 24 per cent was required for average service conditions. The repeat trial and voyage results are considered typical of a tanker on certain "black oil" routes where bottom scouring is commonplace.

(*Continued on page 336*)

NEW CONTRACTS

Shipowners	No. of Ships	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B × D.(dft.)	Delivery	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Overseas Yards										
Dhellemmes, Concarneau	1	Refrig. cargo	854	(218.18) × 31.18 × 20.3	—	12.2	16-cyl MGO diesel	—	—	Anciens Chantiers Dubigeon

LAUNCHES

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Mar. 20	Steel & Bennie	*Strongbow* (426)	Tug	(230)	—	—	Diesel	—	—	Scott & Sons
Mar. 22	Pacific Steam Navigation Co	*Coloso* (896)	Tug	(180)	—	—	Diesel	—	Ruston & Hornsby	Hall, Russell & Co
Mar. 29	British India S.N. Co	*Bombala*	Cargo	7,350	395(426.1) × 59 × 32.5(28)	16	6-cyl B & W diesel	—	Shipbuilders	Harland & Wolff, Govan
Overseas Yards										
Feb. 28	Govt of Indonesia	*Sawu* (159008)	Cargo	4,350 (2,965)	342.9(374.67) × 48.25 × 21.67(20.9)	15.5	8-cyl diesel	4,200	M.A.N.	Stocznia Szczecinska
Mar. 14	Zim Israel Nav. Co	*Tiberias* (910)	Cargo	10,300	435.95 × 62 × 36(25.95)	15.25	M.A.N. diesel	5,400	Shipbuilders	Bremer Vulkan
Mar. —	A. P. Moller	*Niels Maersk* (161)	Cargo	4,320	279 × 47.25 × 28.25(23.5)	13.5	Diesel	2,530	M.A.N.	Bijkers A.B.
Mar. 3	Nippon Suisan K.K.	*Shikishima Maru* (3917)	Fish factory	9,700 (9,300)	—	—	B & W diesel	—	Shipbuilders	Hitachi S.B. & E. Co, Innoshima
Mar. 3	Muko Kisen K.K.	*Mishima Maru* (550)	Cargo	(3,700)	—	—	Diesel	—	—	Mitsubishi SB. & E., Shimonoseki
Mar. 4	Seadredge Co Inc	*Icoa* (95)	Suction dredger	7,500 (16,750)	490 × 95 × 40 (22.5)	13	Tw.-scr. diesel	11,500	Nordberg	National Bulk Carriers
Mar. 4	Matsushima Tanko K.K.	*Shotoku Maru* (657)	Cargo	3,850 (3,000)	—	—	B & W diesel	—	Shipbuilders	Mitsui S.B. & E. Co, Tamano
Mar. 8	A/B Transmarin	*Carl Larsson* (1068)	Tanker	24,800 (16,150)	575 × 76 × (32.75)	14.5	G.V. diesel	8,100	Shipbuilders	Lindholmens Varv
Mar. 10	Harald Schuldt & Co	*Ratzeburg* (1128)	Cargo	5,750 (4,000)	328.25 × 56.42 × (23.75)	14.25	M.A.N. diesel	3,400	Shipbuilders	Kieler Howaldtswerke
Mar. 11	Vereenigde Nederlandsche Stoom. Mij.	*Steenkerk* (804)	Cargo	12,200 (10,000)	480(528.25) × 69 × 39(29.5)	18	9-cyl diesel	10,600	Gebr. Stork	C. van der Giessen & Zonen
Mar. 12	Suisse-Atlantique Soc. d'Armemente Maritime	*Bregaglia* (462)	Bulk carrier	18,500 (12,500)	525 × 72.75 × (30)	14	Diesel	7,800	Sulzer Bros	Brodogradiliste "3 Maj."
Mar 14	Oivind Lorentzen	*Mundogras Brasilia* (369)	LPG carrier	8,900 (7,000)	(430)392 × 64 × 35(27.1)	15	G.V. diesel	4,500	Shipbuilders	Fredriksstad M.V.
Mar. 14	Knut Knutsen O.A.S.	*Ragna Bakke* (749)	Cargo	11,000 (11,440)	510(551.67) × 71 × 43(28.67)	19.25	10-cyl diesel	12,550	Shipbuilders	Gotaverken
Mar. 16	U.S.S.R.	*Turkmenia*	Cargo & pass.	(4,270)	360.9 × 53.8 × 33.75 (16.9)	18	M.A.N. diesel	8,000	D.M.R.	VEB Mathias-Thesen Werft
Mar. 16	Ake Hogberg (Rederi A/B Marion)	*Marion* (374)	Cargo	5,900 (4,000)	—	—	Fiat diesel	—	—	Finnboda Varf
Mar. 17	Cie. de Navigation Mixte	*Blida* (370)	Cargo	(1,595)	—	—	Diesel	—	—	Forges et Ch. de la Mediterrannee
Mar. 18	N.V. Mij. Vriesevaart	*Echo* (242)	Refrig. cargo	1,700 (1,600)	—	—	Werkspoor diesel	1,800	—	Scheepswerf "De Hoop", Lobith
Mar. 18	Esso Standard S/A Francaise	*Esso Lorraine* (Z 18)	Tanker	48,000 (25,300)	707 × 102 × 53.4(37.9)	16.75	Parsons turbine	17,250	Shipbuilders	Ch. de l'Atlantique
Mar. 21	Kolner Reederei	*Anneliese* (331)	Bulk carrier	28,700 (19,200)	597 × 79.75 × (32)	15	M.A.N. diesel	7,860	—	Rheinstahl Nordseewerke
Mar. 21	Skibs A/S Golden West	*Grey Master*	Bulk carrier	18,000	500 × 67 × 43.5(31.9)	14.5	G.V. diesel	8,950	Shipbuilders	Fredriksstad M.V.
Mar. 22	East-Asiatic Co	*Boribana* (772)	Cargo	10,200	456 × 63 × 38.25(27.5)	17.5	8-cyl t.c. B & W diesel	10,000	Shipbuilders	Burmeister & Wain
Mar. 22	Canadian Pacific Steamships	*Beaverfir* (32)	Cargo	5,000 (4,600)	334.5 × 50.5 × 21.1(20.33)	14.5	Diesel	3,100	Burmeister & Wain	Sarpsborg M.V.

TRIAL TRIPS

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Mar. —	South African Rlys. & Harbours Admin	*J. R. More*	Tug	800	—	—	Tw.-scr. triple-expansion steam	3,000	—	Ferguson Brothers
Mar. 24	Britain Steamship Co (Watts, Watts & Co)	*Willesden* (746)	Cargo	11,000 (8,550)	465 × 63 × 40.5	—	5 cyl Doxford diesel	—	Shipbuilders	Barclay, Curle & Co
Mar. 24	Gaselee & Son	*Fossa*	Tug	—	80(86.18) × 21.5 × 10.75	—	8-cyl diesel	1,000	Deutz	Richard Dunston, Hessle
Mar. 27	Buries Markes	*Montrose* (386)	Cargo	9,200 (6,900)	420 × 58.67 × 35.75 (27.33)	15.5	5-cyl G.V. diesel	6,300	North Eastern Marine	Bartram & Sons
Overseas Yards										
Feb. —	Govt of Finland	*Sampo* (368)	Icebreaker	(2,720)	(245) × 57.1 × (19)	—	Quad.-scr. diesel-electric	—	Shipbuilders/ Stromberg	Wartsila-Koncernen A/B Crichton-Vulkan
Feb. 20	Cie. Maritime des Chargeurs Reunis	*Tayga* (247)	Ore carrier	9,340 (7,493)	433.58(461) × 61 × 35.35(26)	16	8-cyl B & W diesel	6,300	Schneider	At. et Ch. de Dunkerque et Bordeaux (France-Gironde), Bordeaux
Feb. 24	A/S Det Danske Kulkompagni	*Biscaya* (133)	Cargo	4,200 (2,800)	(341.25) × 47.95 × 26.95	14	6-cyl diesel	3,900	Burmeister & Wain	Aalborg Vaerft
Feb. 28	Allseas Shipping Co, Israel	*Dahlia* (1345)	Cargo	13,700	437.5(462.5) × 61 × 39.9(27/30.5)	14	s/c Sulzer diesel	5,400	Shipbuilders	Forges et Ch. de la Mediterranee, La Seyne
Mar. —	Zim Israel Nav. Co	*Beer Sheva* (909)	Cargo	10,300 (8,230)	435.95(473) × 62 × 36(25.95)	15.25	6-cyl M.A.N. diesel	5,400	Shipbuilders	Bremer Vulkan
Mar. —	Cargoships El Yam, Haifa	*Har Sinai* (772)	Bulk carrier	23,000 (15,000)	520(550.2) × 74 × 48.25(24.59)	15.25	8-cyl diesel	9,100	M.A.N	Deutsche Werft
Mar. —	Fearnley & Eger, Oslo	*Fernview* (754)	Cargo	10,070 (6,000)	470(510.2) × 68 × 30.5(28.1)	19.25 (T)	9-cyl diesel	11,300	Shipbuilders	Gotaverken
Mar. —	Williamstown Shipping Co	*Westminsterbrook* (243)	Cargo	1,450 (1,035)	(216.95) × 33.67 × (14.58)	11.5	6-cyl diesel	830	Deutz	Scheeps. Gideon
Mar. —	Surrey Shipping Co	*Telde* (888)	Refrig.	6,360 (6,715)	415(451.33) × (49.53 × 36(26)	17.5	de Laval geared turbine	9,350	Shipbuilders	Bremer Vulkan
Mar. 4	Lorentzen's Rederi	*Sally Stove* (666)	Ore carrier	15,750	475.7(508.6 × 66.95 × 37.6(29.25)	14.75	Sulzer diesel	6,300	Ch. de l'Atlantique	Ch. Reunis Loire-Normandie
Mar. 9	Danish State Railways	*Knudshoved* (352)	Pass./veh. ferry	(3,500)	354.42(358.2) × 56.5 × 23.33(15.1)	16	Tw.-scr. B & W diesel	8,700	Shipbuilders	Elsinore S.B. Co
Mar. 14	Petroleo Brasileiro	*Pojuca* (165)	Tanker	10,150 (6,925)	410(440.67) × 62 × 30.75(24)	12.7 (T)	7-cyl diesel	3,160	Burmeister & Wain	Nakskov Skibs

MARITIME NEWS IN BRIEF

Swan, Hunter & Wigham Richardson Ltd are combining the Wallsend and Neptune shipyards of the company under one management. To this end Mr P. Denham Christie, a director of the company and at present managing director of the Neptune works, has been appointed executive director in charge of the two shipyards. Mr Christie, who will be at the head office of Wallsend shipyard, will be assisted by Mr T. McIver, a director of the company. Mr McIver, who is at present general manager of Wallsend shipyard, has been appointed general manager of both yards. Mr S. C. Swan, a director of all the companies within the Swan Hunter group, has been appointed director responsible for ensuring rationalisation of methods within the group. Mr Tom Christie, at present general manager of Neptune shipyard, has joined the board of Barclay, Curle & Co Ltd and has been appointed general manager of their Clydeholm shipyard, the appointments to take effect later this year. Mr Walter H. McLay, at present general manager of Clydeholm shipyard and a director of Barclay, Curle & Co Ltd, will become managing director.

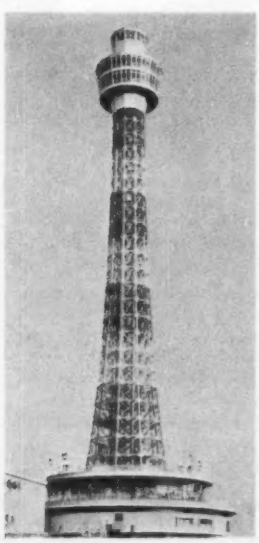
The death has occurred of Mr Henry Sanderson Short, former chairman and grandson of the founder of the Sunderland shipyard of Short Brothers Ltd. He was 73. The seventh son of the late Mr John Young Short, who was himself chairman of the shipyard, Mr H. S. Henry Short was called to the bar of the Inner Temple in 1919 but gave up a career in the law to join the family shipbuilding business as a director in 1922, becoming chairman in 1948. He retired from the chairmanship in 1955 when he was succeeded as chairman by his nephew Mr J. H. Short.

Mr William Geary de Gruchy, a former local director at Sydney, N.S.W., of the Port Line Ltd, has died at the age of 77. He retired in 1946.

Mr John Hay, joint Parliamentary Secretary to the Ministry of Transport, has appointed Mr D. Holmes to be his private secretary in succession to Mr G. S. Riddle.

Mr John Campbell, deputy general manager of Barclay, Curle & Co's Elderslie Dockyard, has retired after 35 years with the company. He is succeeded by Mr Malcolm McLean, previously works manager at Barclay, Curle's Clydeside repair works at Govan.

Mr R. F. Scovell has retired from the chairmanship of the Firth of Forth Shipowners' Association and has been succeeded by Mr T. Macgill, a director of George Gibson & Co Ltd. Mr H. R. MacLeod, a director of the Ben Line Steamers Ltd, becomes vice-chairman, and Mr J. D. P. Currie of Currie Line Ltd has been elected a member of the management committee.



NEW YOKOHAMA LIGHTHOUSE

Claimed to be the tallest lighthouse in the world, the 106-metres (348ft) Yokohama Marine Tower was completed recently. It also serves as a sightseeing tower, and the sightseeing enclosure, reached by lifts, can be seen just below that for the light. A steel framework structure, the lighthouse stands on the waterfront beside Yamashita Park, a recreation area. On the third floor of the building at the base of the tower is a marine science museum. The light is of 600,000 candle power. Later near the tower will be moored the ex-N.Y.K. passenger liner "Hikawa Maru", which was retired recently after 30 years' service and is being refurbished as a floating hostel

REAR-ADMIRAL J. H. UNWIN, C.B., D.S.C., as previously reported in THE SHIPPING WORLD, has oined the board of the Furness Shipbuilding Co Ltd as executive director at the shipyard at Haverton Hill-on-Tees. On his retirement f rom the Royal Navy, Rear-Admiral Unwin recently relinquished the appointment of Admiral Superintendent, H.M. Dockyard, Portsmouth

Mr Sigfrid B. Unander has been elected vice-chairman of the U.S. Federal Maritime Board. The other members are Mr Thomas E. Stakem, chairman, and Vice-Admiral Ralph E. Wilson, former chairman. Mr. Unander has been a member of the board since January 1960. He is a former Treasurer of the State of Oregon.

Mr H. W. G. Hignett and Mr Jean M. Dhavernas have been appointed directors of the International Nickel Company (Mond) Ltd. Mr Hignett remains managing director of Henry Wiggin & Co Ltd.

Mr D. B. Watson, M.C., European freight manager of the Canadian Pacific, London, has retired after more than 47 years' service. He is succeeded by Mr R. R. James, who has been general freight agent in the company's European head office since 1950. Mr James has been associated with the company since 1917.

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The technical panel of the newly formed Sealant Manufacturers' Conference of the Federation of British Rubber and Allied Manufacturers met recently to begin work on drawing up performance standards for rubber-based sealing compounds and a code of practice for their application in shipbuilding and other industries. The following members of the panel were elected: Dr Wallace Rubin (Kelseal Ltd—chairman), Mr L. E. Puddefoot (B. B. Chemical Co Ltd—vice-chairman), Dr J. Bowler-Reed (Expandite Ltd), Mr L. W. Cutler (British Paints Ltd), Dr B. S. Jackson (Evomastics Ltd), Mr G. H. Marsh (The Minnesota Mining & Manufacturing Co Ltd), and Mr A. G. Storey (T. & W. Farmiloe Ltd).

A new Cunard Line cargo service of fortnightly sailings from Bristol to Guernsey and Jersey will be inaugurated on April 21. It will be operated by the mv *Fauvic* of 640 dwt, which the Cunard Line has chartered from Channel Shipping Ltd, of Jersey. She will sail from Bristol direct to the Channel Islands on alternate Fridays. As the *Fauvic* will also load cargo at Liverpool, before sailing from Bristol, the Cunard cargo service from Liverpool to the Channel Islands will become a weekly one.

The Atlantic and Gulf/West of South America Conference has applied a surcharge of U.S.$4 a ton on all freight consigned to Callao from May 1, to cover rising handling costs at that port. In 1958 a surcharge of $2 a ton was introduced following lengthy delays at the port.

The West African Lines Conference announce that the surcharge on all cargo from the Benin ports has been reduced from 10s to 7s 6d per freight ton, effective from April 1.

Canal dues in the Kiel Canal have been increased by 10 per cent as from Saturday.

The Verolme Group is to set up a tank cleaning plant at the Verolme Dok & Scheepsbouw Mij on the island of Rozenburg. Construction work, which is to be completed towards the end of the year, has already begun. The installation will accommodate two tankers of the largest type at the same time. A new company, Verolme Tank Cleaning N.V., has been set up

FIRST OF SIX TRAWLERS

The trawler "Blacktail" is seen just before her launch at the Gateshead yard of T. Mitchison Ltd. She is the first of six hydroconic vessels for the Pelagic Trawling Co Ltd to be powered by Bristol Siddeley Maybach diesel engines, built at the company's Ansty works in Warwickshire. The launching ceremony was performed by Lady Hall, wife of Sir Arnold Hall, managing director of Bristol Siddeley

by the group. The new plant will be the second of its type on the Nieuwe Waterweg.

THE CONVERSION of the Port of London Authority's floating crane *London Mammoth* from 150 tons to 200 tons capacity has been completed. When commissioned in 1927 the safe working load allowed a comfortable margin for all foreseeable commitments, but modern industrial development, especially in the electrical and oil industries, has increased demands for lifts over 150 tons.

A TRIPLE KEEL-LAYING ceremony to be held on April 13 during "Pan American Week" will mark the start of construction on the Grace Line's new passenger-cargo ships to be built at Bethlehem Steel Company's Sparrows Point shipyard at Baltimore. The new ships are expected to enter service in 1962 between New York and Panama, Colombia and Ecuador. With a service speed of 20 knots, they will be air-conditioned throughout and equipped with stabilisers. The building contract for the new liners is valued at $53 mn.

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POLAND'S largest shipyard, Stocznia Gdanska in Gdansk, has completed the first diesel engine built in Poland under licence from Burmeister & Wain. The engine is of the new high-pressure turbocharged type, which in its five cylinders develops 5,450 bhp at 135 rpm, and it is to be installed in the first of a series of 5,000 dwt timber ships for V/O Sudoimport, Moscow. The agreement to start a Polish licence production of B & W diesel engines was concluded in 1959 between Burmeister & Wain and CENTROMOR.

THE TELEPHONE number of Trinder, Anderson & Co Ltd and the Australind Steam Shipping Co Ltd is now Royal 0351.

THE SUEZ CANAL surcharge of 3 per cent on tolls, imposed in 1958 to repay the cost of clearing the canal after the 1956 conflict, has been stopped from the middle of March. The first announcement of the lifting of this charge was made from the United Nations headquarters. The total fund collected is reported to be about $8.4 mn, of which the British Government will have contributed on behalf of British shipowners about $1.3 mn.

An announcement in THE SHIPPING WORLD of 22 March 1961, referring to the introduction of a new material suitable for class "B" divisions in ships, stated that under the 1948 Safety of Life at Sea Convention it could be used for passenger ships with method I fire protection. It has been pointed out that under the 1948 Convention, "B" class divisions can only be used in such ocean-going passenger ships if they carry less than 100 passengers, and will not be allowed for such ships under the 1960 Convention.

(Continued from page 333)

TANK BOUNDARY EFFECTS ON MODEL RESISTANCE

By G. Hughes

Experimental work with a variety of mercantile hull forms has been carried out in Nos 1 and 2 tanks of the Ship Division of the N.P.L., to provide data on the effect of the presence of the tank boundaries on model resistance. The analysis has been made by expressing the measured effect in terms of that calculated from theoretical considerations. The average measured effect on the viscous resistance is of the order twice that calculated, and the excess is probably due mainly to the effect on the stern wake not being included in the theory. With increase of Froude number the average measured effect shows marked oscillations which it is suggested may be associated with the influence of the bow wave system on the pressure field at the stern, but for the present a mean line is proposed for general use in which the oscillations are ignored.

THE BSRA METHODICAL SERIES—AN OVERALL PRESENTATION

By D. I. Moor, M. N. Parker and R. N. M. Pattullo

The B.S.R.A. Methodical Series grew out of three independent series begun by the Shipbuilding Conference towards the end of the Second World War. In these series, the effects of change in bilge radius and in longitudinal position of centre of buoyancy were being investigated on fast, intermediate, and slow single-screw cargo vessel forms, with block coefficients 0.65, 0.70 and 0.75 respectively. The forms of all three series had the same length, breadth, and draught; bow and stern profiles; and midship section, but the parent forms were each designed quite separately and, apart from the common features mentioned, were not related in any way.

A number of papers giving geometrical particulars and experimental results for particular groups of B.S.R.A. Methodical Series forms have been presented to The Institution from time to time. This paper presents a series of charts from which may be obtained the offsets, hydrostatic particulars, and cross-faired resistance for a Methodical Series form with any required block coefficient and longitudinal centre of buoyancy within the limits of the Series. It is hoped to present charts covering cases where the proportions differ from those of the methodical series parent forms and corresponding propulsion data in subsequent papers.

FIFTY YEARS AGO

From THE SHIPPING WORLD of 5 April 1911

Although claimed to be the largest in the world, the new graving dock constructed by the Belfast Harbour Commissioners at a cost of £350,000 was opened on Saturday, April 1, with an entire absence of ceremony. Perhaps this can be explained by the fact that the dock is not to be formally opened until mid-summer; none the less the entry into it on Saturday of the new White Star liner *Olympic* is an event of first importance. The huge liner was safely and expeditiously placed in position. The dock which has taken seven years to make, is 887 ft. long, 100 ft. wide, 37 ft. 6 in. deep to high water level with a floor 17 ft. 6 in. thick. One hour suffices to fill it with the necessary 23,000,000 gallons of water, and in one hour and forty minutes it can be emptied. The dock was entirely laid out on land reclaimed from the sea, and can be lengthened, if need be, by 100 ft.

The Antarctic regions appear to be in danger of becoming overcrowded, and parts of them will be required to be scheduled as congested districts. At the Bay of Whales, on the Great Ice Barrier, it is believed there are at present assembled three expeditions. Captain Scott, of the *Terra Nova*, has made his depot there. There also Captain Amundsen, of the *Fram*, has established his headquarters. And Leiutenant Shirase, who is prepared to show what Japan can do in the way of exploration, is also there. They are all bound for the South Pole, and may all perhaps reach it.

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PORT DISBURSEMENT ACCOUNTS

DETAILS OF EXPENDITURE IN VARIOUS PORTS

With the assistance of correspondents of Ports of the World *(published annually),* The Shipping World *is able to publish a series of recent disbursement accounts from various ports of the world, a selection of which follows:*

IMMINGHAM, U.K.

Size of vessel: 5,513 nrt, 10,974 grt
From: Narvik *Sailed for:* Casablanca in ballast
Discharged: 13,802 tons of iron ore
Time in port: 3 days
Date: February 1961

	£	s	d
Pilotage, inwards	44	6	7
outwards	29	9	2
Dock pilot and boatmen	55	0	9
Towage, inwards and in dock	265	17	10
outwards	166	0	10
Dock dues	522	5	8
Conservancy dues	41	15	8
Hire of shore telephone	2	18	0
Telegrams, petties, taxi, etc.	6	19	3
Reporting inwards	84	12	0
Clearing out (without bunkering)	12	0	0
	£1,231	5	9
Cost of discharge	2,934	0	0

Size of vessel: 5,397 nrt, 10,686 grt
From: Vitoria, Brazil *Sailed for:* Pepel via Freetown in ballast
Discharged: 13,205 tons of iron ore
Time in port: 6 days
Date: January 1961

	£	s	d
Pilotage, inwards	44	6	7
outwards	29	9	2
Dock pilot and boatmen	83	19	11
Towage, inwards and in dock	254	8	6
outwards	166	1	0
Dock dues	1,509	14	8
Conservancy dues	40	8	6
Boiler water	52	4	5
Hire of shore telephone	3	13	0
Telegrams, postage, petties, taxis, etc.	13	16	0
Agency fee, bunkering	10	10	0
Reporting inwards	84	12	0
Clearing outwards	12	0	0
	£2,305	3	9
Cost of discharge	£3,704	0	0

Size of vessel: 809 nrt, 1,464 grt
From: Ridham Dock in ballast *Sailed for:* Copenhagen
Loaded: 2,061 tons of coal
Time in port: 12 hours
Date: March 1961

	£	s	d
Pilotage, inwards	8	5	6
outwards	12	8	7
Dock pilot and boatmen	8	13	10
Towage, in and out	66	19	2
Dock dues	17	14	5
Light dues, outwards	42	13	10
Conservancy dues	6	1	6
Trimming	112	1	11
Telegrams, postage, petties, taxi, etc.	3	9	3
Clearing outwards	34	17	0
	£313	5	0

(Continued in next column)

IMMINGHAM (Contd.)

Size of vessel: 583 nrt, 1,057 grt
From: Tyne in ballast *Sailed for:* Dordrecht
Loaded: 1,226 tons of raw slag
Time in port: 10 hours
Date: March 1961

	£	s	d
Pilotage, inwards	8	5	6
outwards	12	8	7
Dock pilot and boatmen	7	5	2
Dock dues	54	15	0
Conservancy dues	4	7	7
Telegrams, postage, taxi, petties, etc.	2	15	9
Commission, out	11	12	0
Clearing outwards	18	8	9
	£119	18	4

From: John Carlbom & Co Ltd, Dock Office Buildings, Immingham, Lincs. *Cables:* Carlbom Immingham. *Telex:* 52260.

CROTONE, Italy

Size of vessel: 3,385 nrt, 5,824 grt, 10,000 dwt
Sailed for: New York
Loaded: 1,100 metric tons of zinc by winches
Time in port: 2 days

	Lires
Pilotage, in and out (incl. overtime)	55,000
Mooring and unmooring (incl. overtime)	38,000
Harbour and sanitary dues	14,000
Reporting at Customs and clearing	15,000
Commission (2½% on freight of $7,700)	120,555
Supervising bill	19,000
Tallymen	15,000
	L 276,555

Size of vessel: 2,632 nrt, 4,760 grt, 7,300 dwt
From: Murmansk
Discharged: 7,200 metric tons of apatite by crane
Time in port: 9 days

	Lires
Pilotage, in and out (incl. overtime)	50,000
Mooring and unmooring	25,000
Anchorage dues (valid for 30 days)	197,795
Harbour and sanitary dues	16,000
Reporting at Customs and clearing	15,000
Town custom dues	1,700
Telegrams and postage	12,000
Agency fees	165,000
	L 482,495

Size of vessel: 533 nrt, 1,035 grt, 1,200 dwt
From: Antwerp
Discharged: 500 metric tons of chlorkalium of potash by ship's gear
Time in port: 4 days

	Lires
Pilotage, in and out (incl. overtime)	15,000
Mooring and unmooring	10,000
Anchorage dues (valid for 12 months)	94,000
Harbour and sanitary dues	6,400
Reporting at customs and clearing	10,000
Agency fee	50,000
	L 185,400

From: Fratelli Tricoli fu Giov. srl, Crotone, Italy. *Cables:* Tricoli-Crotone.

(Continued on next page)

PORT DISBURSEMENT ACCOUNTS

(*Continued from previous page*)

ODENSE, Denmark

Size of vessel: 1,478 nrt, 2,857 grt
From: Immingham *Sailed for:* Svendborg
Discharged: 3,762,400 kgs of coal
Time in port: 2 days

	Dan kr
Pilotage	1,073.40
Mooring and unmooring	287.30
Harbour dues	1,563.72
Customs Office	127.14
Fresh water (kr 2.50 per 1,000 kg)	25.00
Cost of discharge	8,980.14
Miscellaneous expenses	15.00
Declaration fee	75.00
Agency fees	749.86
	kr 12,896.56

Size of vessel: 1,100 nrt, 2,051 grt
From: Szczecin *Sailed for:* Szczecin
Discharged: 2,718,600 kgs of coal
Time in port: 1 day

	Dan kr
Pilotage	656.90
Mooring and unmooring	358.63
Harbour dues	1,163.80
Customs Office	191.25
Cost of discharge	6,660.57
Miscellaneous expenses	15.00
Declaration fee	65.00
Agency fee	633.19
	kr 9,744.34

From: Chr. Clemmensen, Odense, Denmark. *Cables:* Clemmensen. *Telex:* 3728.

DONGES, France

Size of vessel: 212 nrt, 499 grt
From: U.K. in ballast *Sailed for:* Ipswich
Loaded: 670 tons of aromatics

Pilotage (sea/St Nazaire Nfr 98.55; St Nazaire/Donges Nfr 114.70; Donges/St Nazaire Nfr 122.50; St Nazaire/sea Nfr 88.80)	424.55
Boatmen	45.33
Quay dues	154.76
Sweeping tax	134.00
Lifeboat contribution	1.00
Brokerage inwards (incl. Nfr 5.04 Govt. tax)	85.04
Brokerage outwards	97.92
	Nfr 942.60

From: Pierre Pinault, Centre Maritime, Donges, France. *Cables:* Goupils-Nantes.

TAYPORT, U.K.

Size of vessel: 325 nrt, plus 133 tons of deck cargo = 458 tons
Discharged: 192 stds. DBB
Time in port: 2½ days
Date: December 1960

	£ s d
Pilotage, in and out	15 14 8
Mooring	2 10 0
Dock dues	16 14 2
Tay lighting and buoying dues	18 7 2
Discharging	239 3 3
Tally	26 16 1
Agency fee	16 0 0
	£335 5 4

From: B. L. Nairn & Co, 33 Commercial Street, Dundee. *Cables:* Nairn, Dundee.

STANDARD PORT CHARGES IN U.S.S.R.

Details of standard charges at Soviet ports were published in The Shipping World of 4 May 1960. With the revaluation of the rouble at the beginning of this year, when the official rates of exchange became Rbls 2.53 to the £ and Rbls 0.90 to the U.S. $, new tariffs of dues and charges were adopted and became effective from January 1. The new rates, supplied by "Inflot" of Leningrad and "Sovfracht" of Moscow, are summarised below:

Tonnage Dues

Tonnage dues are charged for entering and leaving port, each way: at the following rates:

Ordinary rate	61 kopeks per nrt
Preferential rate	20 ,, ,, ,,

The preferential rate is applicable to ships belonging to countries which have a Treaty of Commerce and Navigation with the U.S.S.R. The dues are reduced by 10 per cent for the second call within the same calendar year, and by 25 per cent for the third and subsequent calls. Ships engaged on regular liner services over periods of not less than four months are charged once only in each calendar year. Ships loading or discharging at two or more ports during the same voyage under the same charterparty pay tonnage dues at the first port only.

Pilotage Dues

A *In approach channels and fairways, and for coastal voyages between ports under control of a commissioned pilot, per nrt per mile*	0.2 kopeks
Azov, Black Sea and Danube ports	0.1 ,,
Plus, in the case of ships with draught exceeding 15ft, per ft draught over 15ft	Rbls 5.00
Both rates applied for inward and outward passage separately. Minimum rate as for vessels of 1,000 nrt.	
B *For entering and leaving port:*	
Piloting from the outer roads and mooring to a berth or vice-versa, first 1,000 nrt, per nrt	1.0 kopeks
Per ton in excess of 1,000 nrt	0.6 ,,
Minimum rate as for vessels of 1,000 nrt.	
Plus per ft of actual draught	51.0 ,,

Note: Piloted vessels in the channel or fairway bound for the road of the harbour or direct to berth for mooring are charged under both A and B. When an inward bound vessel approaches harbour under control of a pilot and proceeds to the inner road, or when an inward bound vessel piloted from the outer road proceeds to the inner road, and in either case is not moored to a berth, then for further mooring to a berth half the tariff under B is charged; the same rate is applicable to shifting in harbour or unmooring from berth without further pilotage to the outer road.

Towage

At all ports except Leningrad:

Boats under 24 hp	Rbls 5.78 per hour
Boats and tugs of 24 hp and over	0.06 ,, ,,

plus:

hp of tug	*Extra per hr per tug Rbls*	*hp of tug*	*Extra per hr per tug Rbls*
24/59	5.39	320/450	12.31
60/99	8.75	451/750	12.89
100/149	9.33	751/1,000	12.99
150/239	11.54	1,001/1,500	21.26
240/319	11.93	—	—

Motor-driven boats tugs, plus 15 per cent. Every started half hour is reckoned as full half hour.

Agency Fees

Tonnage dwt	*Calling for bunkers, victuals, water, etc (without loading/discharging)* Rbls	*Arrival in ballast and departure with cargo or vice versa* Rbls	*Arrival and departure with cargo* Rbls
Up to 500	11.25	22.50	45.00
1,000	16.88	33.75	56.25
2,000	28.13	56.25	112.50
3,000	33.75	67.50	135.00
4,000	45.00	90.00	180.00
5,000	56.25	112.50	225.00
6,000	61.88	123.75	247.50
8,000	67.50	135.00	281.25
Over 8,000	90.00	180.00	337.50

Other Standard Charges

Fresh water by barge	83 kopeks per ton
from shore	35 ,, ,,
Manifest, B/L blank forms	Rbls 11.25 per vessel

Boustead & Co Ltd of Singapore, Port Swettenham and Penang have recently issued a handy booklet giving information about regulations, facilities and charges at Singapore. It includes arrival advice and brief reference to such matters as accommodation on shore, medical and dental facilities and the cost of dunnage, besides particulars of wharf and cargo arrangements, bunkering and repair facilities and other matters normally covered by such publications.

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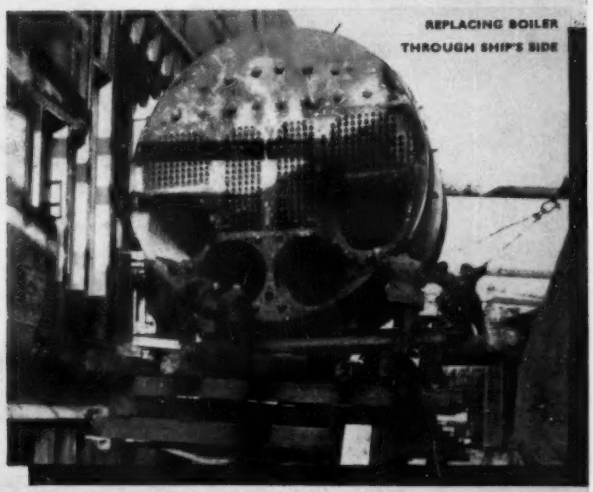

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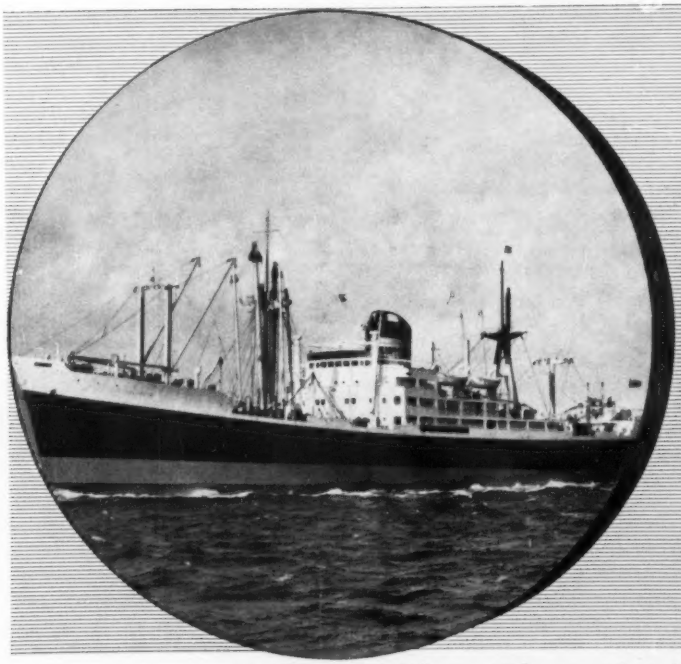
TELEGRAMS: MOUNTSTUART CARDIFF



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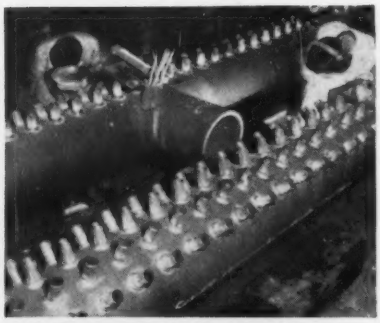
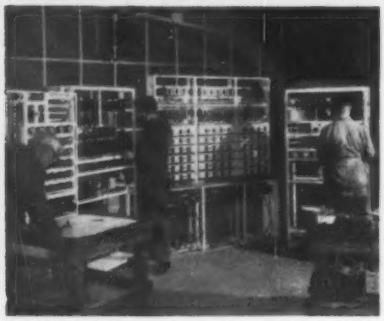




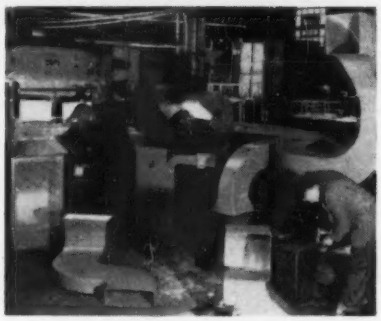
Above: M.V. "Carisbrooke Castle" Passenger/Vehicle Ferry. Built 1959.

Left, top: Preparing a propeller mould.

Left: Wiring Electrical Switchboards.

Right top: Welding power station water tube boiler headers.

Right: Light plate work, ductwork.



THORNYCROFT

MARINE & INDUSTRIAL ENGINEERING

SHIPBUILDING • SHIPREPAIRING

ENGINEERING
Marine Welding
& Nuclear Energy
EXHIBITION

OLYMPIA LONDON **APRIL 20 - MAY 4 1961**

STAND No. 6E

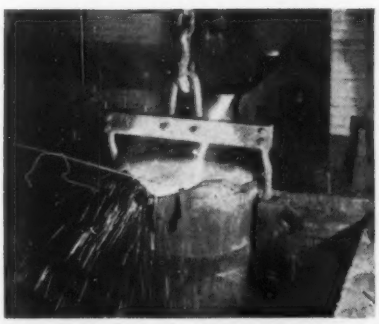
Left: Reblading turbines.

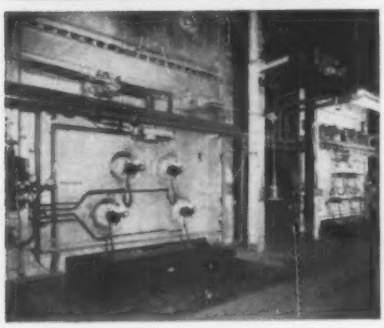
Left, bottom: Oil fuel installation.

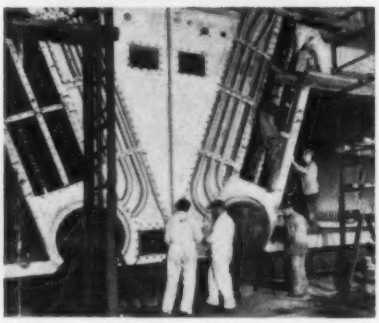
Right: Foundry work, castings.

Right, bottom: Boiler construction.

Below: Dockings, repairs, overhauls, conversions—"from the smallest vessels to the world's largest liners."







For further information 'phone Southampton 48214 or write to:

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